



## WORLD BRIEFS

## Three Mile Island Plant to Reopen

WASHINGTON (AP) — The U.S. Nuclear Regulatory Commission voted 4-1 Wednesday to allow the reopening of the Three Mile Island nuclear power plant in Pennsylvania, six years after the worst nuclear accident ever in the United States.

The vote allows General Public Utilities Corp., the owner of the plant, to restart its undamaged Unit 1 reactor. The Unit 2 reactor suffered a partial meltdown in the March 19, 1979, accident at Middletown, Pennsylvania, and is now being cleaned up at a cost of \$1 billion. Opponents of plant reopening said they would file a petition in the Court of Appeals in Philadelphia asking for a reversal of the commission's restart decision.

The commission's action rescinds a pair of 1979 orders that have kept the plant shut down. The commission held 150 days of hearings into whether the undamaged reactor could be operated safely.

## U.S., Soviet Officials to Meet in Paris

WASHINGTON (UPI) — A top State Department official will meet Thursday with his Soviet counterpart to discuss southern Africa, department officials said Wednesday. A session on Afghanistan is expected next month.

Chester A. Crocker, the assistant secretary of state for African affairs, will meet Vladimir Vaeov, head of the Soviet Foreign Ministry's department for eastern and southern African affairs, in Paris, the officials said. The meeting is the outgrowth of President Ronald Reagan's call last September, in an address at the United Nations, for "periodic consultations at policy level about regional problems." The first meeting was held in Vienna in February and concerned the Middle East. A State Department official said the Russians have in effect agreed to a meeting on Afghanistan, but "the arrangements are still being made." He said the meeting is expected next month.

## Schmidt Warns Bonn on U.S. Project

BONN (Reuters) — Helmut Schmidt, the former West German chancellor, has warned his successor, Helmut Kohl, against taking part in U.S. research for a space missile shield, urging him instead to cooperate with France in a technology program.

In a letter made public by sources close to him, Mr. Schmidt said that Bonn's joining in the Strategic Defense Initiative project, the formal name for the U.S. effort to develop a space defense against missile attack, could lead to serious political problems for West Germany and, further, was unlikely to bring technological benefits.

In his first major statement since stepping down as chancellor in 1982, Mr. Schmidt said that France's proposal for a high-technology drive offered far better prospects for Western Europe than the U.S. plan.

## Government Raises Prices in Israel

TEL AVIV (AP) — Prices for everything from bread to gasoline rose Tuesday by 14 to 41 percent as part of the government's economic program to control inflation.

Long lines of motorists formed at gasoline stations before midnight Monday as rumors spread of the impending increases. Israel Army Radio reported that Israelis crowded several late-night supermarkets to stock up before the increases went into effect.

The price of many services went up 14 percent. Prices of basic foods subsidized by the government increased 25 percent. Gasoline went 41 percent more. The new prices will remain in effect until the end of July. The increases were designed to cut government spending by slashing its subsidies budget and to absorb spare cash held by the public.

## Sinn Fein Member Will Chair Council

OMAGH, Northern Ireland (AP) — Protestants shouted abuse and some spectators walked out when a member of Sinn Fein, the political arm of the Irish Republican Army, was elected chairman of the Omagh District Council.

The Tuesday night session was the first council meeting since Northern Ireland's municipal elections May 15, when Sinn Fein won 39 of the 566 council seats in 26 local councils throughout the British province. Sinn Fein won six seats on the 21-member council at Omagh, 55 miles (90 kilometers) west of Belfast, making it the largest party on the council. Councilman Seamus Kerr was elected council chairman by a vote of 7-6. Of the remaining eight council members, seven abstained and one was absent.

## For the Record

Iraq said its planes attacked Tehran and Tabriz in northwestern Iran on Wednesday while a West German cargo ship in the Gulf was struck by a rocket in an apparent Iranian raid. (Reuters)

Britain, facing a flood of Tamil refugees from Sri Lanka, moved Wednesday to curb the numbers by requiring visas of Sri Lankans planning to visit. (Reuters)

Three persons in Karachi, Pakistan, were wounded when police fired on a crowd looting and burning shops Tuesday in ethnic unrest among Pashtun migrant workers, witnesses said Wednesday. (Reuters)

Sikh extremists shot to death three Hindus in Punjab state as the Indian government sought to tighten security before the June 3 anniversary of the storming of the Golden Temple, police said Wednesday. (Reuters)

Swedish unions and employers reached agreement Wednesday for a wage increase of 3.6 percent for 350,000 white-collar workers in the private sector. (Reuters)

## Clarification

An account in Monday's paper on reports of the massacre of hundreds of Palestinians by Shiite militiamen in Beirut was based on several weekend dispatches and should have appeared under a London dateline.

## Gemayel Palace Is Shelled

(Continued from Page 1)

round of fighting began May 19 to at least 408 dead and 1,803 wounded.

## Israeli Negotiations Reported

In other developments, wire services reported:

Israel is negotiating with a radical Palestinian guerrilla group for the return of an Israeli soldier missing in action in Lebanon, offering in exchange an unspecified number of Palestinians detained in Israeli prisons. Western diplomats said Wednesday in Athens.

Israel believes that Samir Assad, an Israeli Druse, is still alive. But the Democratic Front for the Liberation of Palestine claims he was killed while in captivity on June 24, 1984, during an Israeli air raid on Rabbat Island off the coast of the Lebanese port of Tripoli. Nineteen people are believed to have been killed in that raid.

The disclosure of these negotiations, through the Geneva-based International Committee of the Red Cross, came as controversy in Israel continued over the exchange

this month of 1,150 Palestinians and others held in Israeli prisons in exchange for three Israelis captured in Lebanon by a pro-Syrian Palestinian guerrilla group.

In Jerusalem, the Knesset voted, 65-6 with 16 abstentions, to accept Defense Minister Yitzhak Rabin's statement that Israel had no choice but to accept the terms of the earlier exchange, which included the release of convicted killers.

Only two parliamentarians from government parties abstained. Five members of the ultra-nationalist Tehiya party and the militant anti-Arab, Rabbi Meir Kahane, voted against.

Israel radio said the Israeli Army completed its withdrawal Wednesday from most of the central and western sectors of the security zone in Lebanon, leaving a large force still in the east. (UPI, Reuters, AP)

## South African Soldier Says Oil Depot Was His Target

(Continued from Page 1)

rejected South African claims that the commando group was spying on its camps. Agence France-Press reported from Lusaka, Zambia.

Captain du Toit said he had been shot in the neck, shoulder and arm when Angolan soldiers attacked his unit near the refinery at Malongo in Cabinda, killing two other soldiers.

He said the commando unit, whose strength he did not reveal, was surprised by a patrol on May 21, and he ordered the unit to separate into groups of three. His group was hit while trying to escape across a clearing, he said.

The others "must have made it back to our rubber raft and back to the mother ship" off the Cabinda coast, Captain du Toit said.

In the South African Parliament, Mr. Malan reiterated that the soldiers were gathering intelligence on the plans of the two black rebel groups.

"Our target was not and is not the state of Angola. Our target was and is the ANC and SWAPO, just as Mozambique and Lesotho were not our targets when we went after the ANC in their nests in Maputo and Maseru," he said.

But Frederick van Zyl Slabbert, leader of the opposition Progressive Federal Party, replied that the operation had done serious damage to South Africa's image, reinforcing a view that the government destabilizes southern African nations.

## Bombing of Office Claimed

The African National Congress said Wednesday that its forces had bombed a South African Army medical office on Tuesday, wounding 17 persons, "as part of a general escalation of the liberation war in South Africa."

The group's office in Lusaka said in a statement sent to The Associated Press in Johannesburg that its guerrillas had also shot a South African policeman to death Monday in a black area northwest of Pretoria.

## Soviet Insists on a U.S. Shift in SDI Plans

United Press International  
GENEVA — The Soviet Union, on the eve of a new round of superpower arms talks Thursday, has flatly rejected cuts in nuclear weapons unless Washington abandons research on the Strategic Defense Initiative.

The chief Soviet arms delegate, Viktor P. Karpov, arriving Wednesday for the second round of talks, said progress depended on "necessary adjustments" in the U.S. position.

Mr. Karpov made clear that his orders remained unchanged from the first round March 12 to April 23. The Soviet position is that cuts in existing nuclear weapons must be linked to a ban on anti-missile space systems.

The chief U.S. delegate, Max M. Kampelman, similarly stated on returning to Geneva 12 hours earlier that his instructions from President Ronald Reagan "are not basically in any way altered."

The president repeatedly has declared that research on the initiative will continue, although any eventual introduction of such systems could be discussed.

U.S. arms control officials argued that Moscow, besides having its own space arms program, agreed long ago that it was impossible to verify a ban on research as such.

The talks involve separate but related subgroups on long- and medium-range nuclear weapons as well as arms in space.

Given the evidently unchanged positions, diplomats close to the talks said, it is unlikely that the deadlock can be broken at the second round. This round of talks is expected to last about two months.

Mr. Karpov said in his arrival statement that the American program involved "space strike arms." He said it increased the risk of nuclear war and reduced the chances of reaching agreement.

Only the renunciation by Washington of "research, testing and deployment" of such systems can "open the way to radical reductions in nuclear arms," Mr. Karpov said. "We would like to hope that the

U.S. side has made the necessary adjustments in its position and will be prepared to work out practical solutions on both space and nuclear arms issues," he said.

Mr. Kampelman called on the Soviet Union to match the "negotiating flexibility" of the U.S. delegation.

His instructions, Mr. Kampelman said, are "to achieve radical reductions in offensive nuclear weapons and to create a more stable strategic environment on earth and in space."

"We were perhaps somewhat disappointed at the slow pace and I hope that we can enliven and quicken that pace during the second round of these negotiations," he said.

In Washington, the assistant secretary of state for European affairs, Richard R. Burt, said Tuesday that the United States has not seen evidence that Moscow "is really prepared to negotiate" in Geneva.

Mr. Burt accused the Soviet Union of a "strategy of holding arms control negotiations hostage to a unilateral concession" by the United States on the initiative.

## Reagan and Hussein Discuss Mideast, But Officials See Little Progress Now

Compiled by Our Staff From Dispatches

WASHINGTON — President Ronald Reagan met Wednesday with King Hussein of Jordan for talks on efforts to ground Arab-Israeli peace negotiations, but aides dampened hopes for any breakthrough.

Before the meeting, an administration official said, "We have a long way to go." He cautioned against any expectation of a breakthrough in the Middle East stalemate.

Mr. Reagan and King Hussein posed for pictures at the start of their private meeting. The president and the king declined to answer questions on the prospect of progress.

Both leaders said they would have a statement after the meeting and "working luncheon" in the family quarters of the White House.

When asked about the Middle East, Mr. Reagan turned to King Hussein and talked about the weather.

King Hussein commented to reporters that he had been visiting the White House since 1957.

He was to have made a two-day trip to California, but a Jordanian Embassy spokesman said Wednesday that, in a change of plans, the king would fly back to Amman from Washington on Friday.

The spokesman, Mohammed Sulaimi, denied a press report suggesting that the king had cut short his trip because of disappointment at a senior U.S. official's cautioning Tuesday against expecting dramatic results from the talks here.

Officials said the United States has told Middle East countries that the next phase in the process depends on those nations getting together on a peace plan. They were told that they should not look for any U.S. contributions to salvage the situation.

"This is very straightforward," said an administration official for whom the White House requested anonymity. "Our goals are modest."

In an interview just before his

departure for the United States, King Hussein told a Kuwaiti newspaper that he was not looking for dramatic events in his Washington visit.

King Hussein and Yasser Arafat, leader of the Palestine Liberation Organization, agreed in February to negotiate jointly, within the context of an international conference, for recovering the West Bank of the Jordan and the Gaza Strip from Israel in return for peace with Israel. The Jordanians have called for the first step to be talks between a joint delegation and the United States.

The United States has said it would agree to such talks if two conditions were met: that the Jordan-Palestinian group contain no "declared" PLO members and that there be some commitment that such talks would pave the way for direct negotiations with Israel.

But even if the PLO did so, and the United States met with such a joint group, that would not mean that Israel would sit down with a PLO group.

King Hussein is also to meet with Secretary of Defense Caspar W. Weinberger to discuss the possibility of a major new arms package. But no answer is expected from the administration, which is not prepared to take on a major fight in Congress over weapons to the Jordanians now. (UPI, Reuters, NYT.)

## PLO Endorses Joint Effort

The PLO's Central Council endorsed Wednesday a joint peace effort with Jordan that calls for a Palestinian state confederated with Jordan in the Israeli-occupied West Bank. The Associated Press reported from Tunis.

The 71-member council oversees policies of the Palestine Liberation Organization between the infrequent meetings of the Palestine National Council, which serves as the organization's parliament.

It was the first central council session since the national council met in November in Jordan and heard King Hussein propose a joint search for peace.

## In Moscow, Craxi Urges Medium Missile Accord

Reuters

MOSCOW — Prime Minister Bettino Craxi of Italy said Wednesday that he had told Mikhail S. Gorbachev, the Soviet leader, that a U.S.-Soviet accord on intermediate-range missiles in Europe could be reached faster than agreement on space weapons or long-range missiles.

Mr. Craxi said that his talks with Mr. Gorbachev were dominated by the negotiations on space and nuclear weapons which resume Thursday in Geneva.

The Kremlin says that no progress is possible on European-based or long-range missiles until Washington drops its plans for a space-based missile defense.

Mr. Craxi said he told Mr. Gorbachev, "We are in favor of negotiations at different speeds on the three topics and we think the European one," a reference to intermediate-range missiles, "can more easily give concrete results."

Mr. Craxi, the first leader of a North Atlantic Treaty Organization country to have formal talks with Mr. Gorbachev, said he cautioned against allowing the talks to break down through "hard positions." He said that he reminded Mr. Gorbachev that the United States had said it was ready to negotiate on all three issues.

In his account of the talks, the Soviet news agency Tass said that Mr. Gorbachev pledged the Soviet Union's determination to find solutions in all three areas, adding, "It is especially important to effectively block the militarization of space."

Mr. Craxi described the talks as open and even cordial. He said he told Mr. Gorbachev that the European missile issue was "just a question of counting up the missiles."

Asked by reporters if this included French and British weapons, he replied: "Well, they're not deployed on the moon."

This suggested a shift from the NATO position that British and French missiles should not be counted in the balance of Soviet SS-20 missiles and U.S. cruise and

Pershing-2 weapons, which have been deployed since late 1983.

The last U.S.-Soviet talks on medium-range missiles broke down in 1983, in part over whether to include British and French weapons.

On Monday, the Soviet daily Pravda said that the Kremlin would be ready eventually to cut back its European missiles to the level of the French and British weapons.

Italian officials said that Mr. Gorbachev stressed the importance of Europe, saying that Moscow did not view the international scene only through the perspective of superpower relations.

Mr. Gorbachev also said that Comecon, the Soviet bloc trading group, was drafting a document on establishing direct relations with the European Community.



KOREAN TALKS SUCCEED — Li Chong Ryl, right, a North Korean negotiator, and his South Korean counterpart, Lee Young Dok, walked in Seoul Wednesday after agreeing to allow visits between separated family members.

## Strike-Bound United Plans to Rebuild Airline

New York Times Service

CHICAGO — United Airlines has announced that it plans to rebuild with or without its nearly 5,000 striking pilots.

"Our intention is to rebuild this airline as rapidly as we can," Richard J. Ferris, United's chairman, said Tuesday at a news conference here as most of the airline's planes remained grounded in the 12th day of the strike.

James J. Hartigan, president of United, said the carrier, the nation's largest, would hire and train enough "safe, dependable" pilots to restaff itself by the end of next March.

Mr. Ferris also said United was

not ready to return to the bargaining table despite the stated willingness of the pilots' union to resume talks aimed at ending the strike. Further talks with the union "are not to anybody's benefit," he said.

Spokesmen for both sides acknowledged that the strike's economic issues, mainly a two-tier wage structure for experienced and newly hired pilots, had been largely worked out satisfactorily late last week. However, a new sticking point has developed over back-to-work issues, including seniority rights for striking pilots and those who have continued to work.

Since May 16, when the strike began, United established a new seniority list for pilots who contin-

ued to work, enabling them to seek more coveted flying assignments made vacant by striking pilots. United hoped to keep the new seniority agreement in place after a settlement with the union.

However, John LeRoy, a United Airlines' captain and spokesman for the Air Line Pilots Association, said that if the "super-seniority" provision was left intact it would allow some nonstriking pilots to leap over others who had 10 years or more seniority in obtaining choice cockpit assignments.

The airline is operating about 210 flights daily to 41 airports. This represents about 14 percent of its normal daily schedule of 1,530 flights to 139 airports.



Survivors of the tidal wave in Bangladesh in a refugee center.

## Following Tidal Wave, Bangladesh Braces for Possible Second Cyclone

Reuters

DHAKA, Bangladesh — Bangladesh, reeling from a cyclone and tidal wave that killed thousands, braced Wednesday for a possible second cyclone.

The Dhaka Weather Bureau said a cyclone was about 900 miles (1,440 kilometers) south of Bangladesh in the Bay of Bengal. It was moving north and could hit the coast in the next few days unless it dissipated, officials said.

They also said two tropical disturbances that could develop into cyclones in the next two days were heading toward Bangladesh from the Bay of Bengal.

A tidal wave 45 feet (about 14 meters) high swamped seven islands in the Ganges-Brahmaputra delta Friday. In addition to the deaths, 250,000 people were believed to have lost their homes.

Officials of foreign aid agencies who inspected the area for the first

time Wednesday said damage was much less than some reports had suggested.

Rescuers were still searching for about 12,000 people reported by residents to have been swept away.

Dhaka newspapers said many of those affected by the tidal wave ignored warnings broadcast on state radio. They said poor roads and transport facilities discouraged villagers from fleeing.

About 250,000 people in the districts of Vornila and Sylhet in eastern Bangladesh had moved to higher ground in the past 24 hours after three rivers overflowed.

Lieutenant General Hussain Mohammed Ershad, the country's martial law leader, said Tuesday he expected the final death toll could go as high as 10,000. He has appealed for millions of dollars in international aid.

Bangladesh has received com-

## Agca Trial Defendant Says He Held Gun in Safekeeping

Reuters

ROME — Omer Bagci, a Turk accused of involvement in a plot to kill Pope John Paul II, said Wednesday he kept a weapon for the man who shot the pontiff "because I knew he was a terrorist and I was afraid."

Mr. Bagci, 39, told a Rome court he assumed Mehmet Ali Agca had handed him the Browning 9mm pistol in 1981 "as part of some plan," but he said he knew nothing about a plot to kill the pope.

In answering questions from the court president, Severino Santapichi, Mr. Bagci twice contradicted evidence he had given during investigations into the alleged plot to kill the pope in St. Peter's Square on May 13, 1981.

Neither Mr. Agca nor Musa Sendar Celebi, another Turk on trial, were in court as Mr. Bagci testified, but a Bulgarian defendant, Sergei Ivanov Antonov, was present. Five Turks and three Bulgarians are on trial.

Mr. Bagci said Mr. Agca handed

him a package containing the pistol in April 1981, at Olten, Switzerland, where Mr. Bagci lived and organized a Turkish immigrants' organization.

"I was 90-percent certain it was a weapon, but it was wrapped up in rags, and I did not open the package," he said. In earlier evidence he had admitted opening the package, Mr. Santapichi told the court.

The judge asked Mr. Bagci why he did not hand over the weapon to Swiss police when he knew Mr. Agca had been condemned to death in Turkey for the murder of a Turkish journalist, Abdi Ipekci, in 1979 and had declared he wanted to kill the pope.

Mr. Bagci replied: "If I had given up the weapon he would have taken reprisals against me."

Asked by Mr. Santapichi why he chose to keep the pistol and return it to Mr. Agca in Milan on May 9, 1981, he said: "I do not know, it was a thing of the moment."

Contradicting statements he made to the investigating magistrate, Ilario Martella, Mr. Bagci denied he sent money to Mr. Celebi's account in West Germany to buy a plot of land in Istanbul.

## Prague Aide to Visit China

The Associated Press

BEIJING — China announced Wednesday that Svatopluk Potac, a deputy prime minister of Czechoslovakia, would visit here early in June. He will be the highest Prague official to visit Beijing since 1959.

**UNIVERSITY DEGREE**  
BACHELOR'S • MASTER'S • DOCTORATE  
For Work, Academic, Life Experience.  
Send detailed resume for free evaluation.  
**PACIFIC SOUTHERN UNIVERSITY**  
400 N. Sepulveda Blvd.,  
Los Angeles, California  
90049, Dept. 23, U.S.A.

## Von Bulow Ex-Mistress Says He Told of Stalling As Wife Sank Into Coma

By Jonathan Friendly  
New York Times Service

PROVIDENCE, Rhode Island — Alexandra Isles, Mrs. von Bulow's former mistress, has testified that he told her he spent hours in 1979 watching his wife slip deeper into a coma but then decided "he couldn't go through with it" and called a doctor.

The woman recounted that conversation in a dramatic courtroom appearance Tuesday after arriving Monday from West Germany.

It was the first time that she had publicly disclosed what Mr. von Bulow told her about the events of Dec. 27, 1979, the first of two dates on which he is accused of having tried to kill his wife with an overdose of insulin.

Taking the stand at the last minute, as she did as a key witness at the first trial, Mrs. Isles repeated much of the testimony. She said she had told Mr. von Bulow that he had to leave his wife by Christmas 1979 or she would break off with him.

Mrs. Isles did not end the relationship then, however, and she said Tuesday that she was "ashamed" of not doing so. But, she explained, "I still loved him."

Mrs. Isles left the country three months ago. But she returned and took the stand as the state's last witness against Mr. von Bulow, 58.

## U.S. Plans Freeze Of Medicare Rates For Hospital Care

New York Times Service

WASHINGTON — The Reagan administration has concluded that Medicare payment rates for hospitals were set at least 6.1 percent too high this year and must be frozen next year to correct the error.

Medicare finances health care for 27 million elderly and 3 million disabled people. The error occurred partly because inflation in the health care industry was less than the government expected, according to rules announcing the new schedule of payments for treatments to be issued next week.

The adjustment for the next fiscal year, which starts Oct. 1, marks the first time the government has proposed adjusting Medicare payments in one year to offset the effects of erroneous estimates in a previous year.

The Medicare program this year is expected to cost \$71.8 billion, of which \$48 billion is for hospital services.

a society figure in New York and Newport.

Her description of what Mr. von Bulow told her about having watched his wife, Martha, nearly die echoed a description of his behavior offered by the first state witness, Maria Schramm, more than a month ago.

Mrs. von Bulow, 52, who is heir to a \$75-million fortune, recovered from the 1979 coma, but a year later collapsed for a second time, again at her Newport mansion where she was spending the holidays. She is not expected to regain consciousness.

Mr. von Bulow is accused of trying twice to kill her with insulin injections, which the state says caused the comas. He was convicted three years ago and sentenced to 30 years in prison, but the Rhode Island Supreme Court overturned the verdict, ruling that some evidence had been improperly admitted, and that he should have had access to notes made by a lawyer hired by his stepchildren to investigate him.

The jury will not hear direct testimony about what the state says was, besides romance, another motive: greed. The trial judge, Corinne P. Grande, ruled, without giving an explanation, that Mrs. von Bulow's investment adviser, Morris Gunley, could not be called.

The adviser testified in 1982 that Mr. von Bulow would have inherited more than \$14 million if his wife died and he was prepared to say this time that a prenuptial agreement might have barred anything in a divorce.

In two hours on the stand, Mrs. Isles, 39, a former soap opera actress, provided new explanations of her conduct and that of Mr. von Bulow. Chief among them was her account of a phone conversation in January 1980, a month after Mrs. von Bulow's first coma.

"He said that they had been having a long argument about divorce and it had gone on late into the night," Mrs. Isles said. "She had drunk a great deal of egg nog. Then, he said, 'I saw her take the Second.' And then he said the next day when she was unconscious that he watched her, knowing that she was in a bad way, all day. And watched her and watched her. And finally, once she was at the point of dying, he said that he couldn't go through with it, and he called and saved her life."

On the first day of testimony, Maria Schramm, Mrs. von Bulow's maid, described the same event, saying that Mr. von Bulow had sat on the bed beside his unconscious wife, ignoring repeated pleas that he call a doctor.



MAN WITH KNIFE — San Diego police officers try to stop a 21-year-old assailant running through the streets with a knife. The man, Wayne Douglas Holden, slashed

at car tires and then hid in a house, where he was shot to death by two officers. The man's father said he was distressed over a recent break-up with his girlfriend.

## Tax Experts Say Reagan Plan Is No Revolution

By Dale Russkoff  
Washington Post Service

WASHINGTON — American tax experts across the political spectrum are almost unanimous in calling President Ronald Reagan's tax-overhaul plan a major improvement over the present Internal Revenue Code, but say it is far less than its advance billing as a sweeping reform or "Second American Revolution."

They praised as "brave" his proposal to curb lucrative write-offs for capital investment, which have wiped out the tax bills of many corporations and wealthy individuals. Most applauded his plan to abolish deductions for state and local taxes, which favor the Northeast and Midwest and upper-income taxpayers.

They hailed his proposal to lower tax rates dramatically for individuals and corporations.

But with almost the same uniformity, these former tax-policy makers from the Nixon, Ford, Carter and Reagan administrations said the president had missed what several called a "great opportunity" to fundamentally alter the way the tax system shapes American life.

The Reagan proposal leaves intact certain lucrative tax advantages for oil and gas drilling, insurance, charities, investments in stocks and bonds and tax shelters. The Treasury Department had proposed to eliminate these and other breaks in a sweeping blueprint released last November, but the White House decided to restore them after heavy lobbying from myriad interest groups.

"The November proposal would have been a landmark in U.S. economic history and it would indeed have been President Reagan's 'Second American Revolution,'" said Henry Aaron, a senior fellow at the Brookings Institution and co-author of a recent book on tax reform. "This proposal has a very different character. It promises significant improvements, not a revolution."

Greg Ballentine, a former Treasury Department official under Mr. Reagan, also called the plan a "significant improvement," but from a perspective very different from Mr. Aaron's.

Mr. Ballentine describes himself as a conservative interested in lower tax rates; Mr. Aaron focuses more on the elimination of tax advantages for special groups of taxpayers and corporations.

Mr. Ballentine said, "My God, if you hadn't heard of the November proposal and suddenly the president had said we'll have top rates of 35 percent for individuals and 33 percent for corporations, we would all have said: This is tremendous."

Mr. Ballentine, who is now a corporate tax-policy consultant, added, "Call it change, call it overhaul, call it what you will, but it is truly dramatic."

But other former officials said Mr. Reagan's plan, once reviewed by Congress, might be no more dramatic than the 1969 and 1976 tax laws, which were billed as major reforms. Those measures dramatically cut tax shelters, increased taxes on capital gains and restricted numerous business deductions.

Most explained their enthusiasm less as a testament to Mr. Reagan's proposal than as a measure of their low regard for the present tax system, which Mr. Ballentine called "a relatively miserable standard."

Moreover, they said that Mr. Reagan appeared to have forfeited his goal of simplifying the tax code by proposing to retain features that encourage tax shelters and favor certain industries and investments.

"Any attempt to sell this as simplification is disingenuous," said Frederic Hickman, assistant Treasury secretary for tax policy under President Richard M. Nixon. "It would greatly increase the tax practice of lawyers and accountants. By shifting the tax burden back to corporations, it creates more pressure to avoid taxes in that area, which is where most tax lawyers and accountants work."

Still, these former policy-makers emphasized that Mr. Reagan's plan would remove some important incentives blamed for distorting choices. By curbing depreciation write-offs and abolishing the investment tax credit, Mr. Reagan's plan would be less generous toward capital investment than was the tax code in the Carter administration, according to Emil Stunley, an economist. He was President Jimmy Carter's deputy assistant Treasury secretary.

Mr. Stunley added that lower tax rates would make up for some, if not all, of the difference, but the overall effect would be to reduce the advantage of industries such as steel that invest heavily in machinery over those that do not, such as

the high-technology and service industries.

The former officials said unanimously that Mr. Reagan's plan appeared to be driven less by tax-policy considerations than by a need to accommodate certain interest groups and to raise enough money to offset rate reduction.

## U.S. Navy Bought \$659 Ashtrays

Washington Post Service

WASHINGTON — A naval air station in California has paid Grumman Aerospace Corp. \$659 each for aircraft ashtrays and \$404 apiece for socket wrenches, while watching the price of landing-gear clamps increase more than 2,500 percent over a 16-month period, according to the navy.

Commander Tom Jurkowski, spokesman for the Pacific Fleet Naval Air Force, said Tuesday that the navy was investigating the case, which was turned up by congressional investigators.

The officer said he did not know how many ashtrays, wrenches and clamps had been purchased by the base, the Miramar Naval Air Station near San Diego, or why procurement officials had failed to challenge the bills.

## Reagan Urges Overhaul Of 'Un-American' Taxes

(Continued from Page 1)

rate at 35 percent would unnecessarily sacrifice jobs, investment, economic growth and revenues."

The main theme of the president's speech was that ordinary people pay too much in taxes because a few do not pay their fair share.

Calling his proposal "revolutionary," the president asserted, "I believe that in both spirit and substance our tax system has come to be un-American."

"For the sake of fairness, simplicity and growth," he said, "we must radically change the structure of a tax system that still treats our earnings as the personal property of the IRS, radically changes a system that still treats people earning similar incomes much differently regarding the taxes they pay and, yes, radically change a system that still causes some to invest their money, not to make a better mousetrap, but simply to avoid a tax trap."

Congress is in recess this week, so its response to the president's address was more muted than it might otherwise have been. The debate in Congress is expected to last at least the rest of the year. Mr. Rostenkowski's committee and its counterpart in the Senate, the Finance Committee, are planning hundreds of hours of hearings that are expected to last into autumn.

Senator Bob Packwood of Oregon, chairman of the Finance Committee and a Republican, said he expected a tax bill similar to the president's to be enacted by Christmas. But even Mr. Reagan's most optimistic advisers believe that the odds of that happening to be little better than even and that the bill will carry over into 1986.

The president made many changes in an original set of recommendations presented by the Treasury Department last November, but he followed the Treasury's philosophy that tax rates could be reduced significantly if many special deductions, exemptions and exclu-

sions were eliminated or restricted. Mr. Reagan did not mention the original Treasury plan.

As the Treasury had recommended, Mr. Reagan proposed reducing the number of tax brackets for individuals to three rates.

The plan would benefit the poorest and wealthiest taxpayers most. Overall, it would bring the Treasury approximately the same amount of revenue that the current system does.

The proposal would mean a tax reduction for virtually all of the two-thirds of American taxpayers who do not itemize returns.

The personal exemption taxpayers can take for themselves and their dependents would be raised to \$2,000 from the current \$1,040. The standard deduction, or zero bracket amount, would be lifted to \$2,900 from \$2,480 for single taxpayers and to \$4,000 from \$3,600 on joint returns.

That means that a family of four earning \$25,000, approximately the median family income in the United States, and taking the standard deduction would owe slightly less than \$2,000 of income tax. Such a family would owe more than \$2,100 under current law.

According to the White House summary, people with taxable incomes over \$200,000 would have their taxes reduced on average by 10.7 percent. Those with incomes below \$20,000 would have an average tax cut of between 13.5 percent and 35.5 percent. Taxpayers with incomes between \$20,000 and \$200,000 would get average reductions between 4.1 percent and 8.7 percent.

More than 65 categories of deductions, exemptions and exclusions in the present law would be limited or abolished.

Among major changes, the corporate tax rate would be reduced to 33 percent from 46 percent.

The maximum capital gains tax rate would be 17.5 percent. Taxpayers in the 25 percent tax bracket would owe only 12.5 percent on capital gains. The maximum rate is now 20 percent.

## Plan Reflects Reagan Vision of U.S.

(Continued from Page 1)

the plan, none illustrates Mr. Reagan's commitment to smaller government than his insistence upon repealing the tax deduction for state and local taxes. Only a half-dozen states, foremost among them New York, objected to the provision and those are big-government, high-tax states.

By repealing the deduction and forcing taxpayers of those states to pay somewhat higher federal taxes, Mr. Reagan forces upon the states the same choice he has forced upon Congress — to cut spending and services and reduce the size of government, or to turn instead to politically unpalatable tax increases.

The proposal also makes important concessions to small businesses, in allowing them lower tax rates. In effect, Mr. Reagan has turned

his back on the giants of industry, but he makes an important bow to the high-paid executives who run them and all other wealthy Americans. With the exception of those who rely heavily on the many tax shelters that Mr. Reagan would now repeal, the rich, like the working poor, stand to gain more personally from the tax plan than everyone else.

One contentious element of the plan is a \$5,000 limit on the deduction taxpayers are allowed on interest payments for loans other than home mortgages. But it applies to interest payments exceeding a taxpayer's investment income — the dividend, interest and rental income from assets.

Thus, wealthy taxpayers with abundant unearned income from such investments face no real constraint, while middle-income tax-

payers who borrow to buy second homes, automobiles and store purchases but have no income-producing investments could lose a part of their deduction.

Also, Mr. Reagan would not only reduce the tax on capital gains from which the rich derive much of their income, he would also reduce the maximum income tax rate from 50 percent to 35 percent, and from 70 percent four years ago. It means that taxpayers with incomes of hundreds of thousands of dollars would end up with proportionately far more, after taxes.

"They have changed the progressivity of the system," said William A. Niskanen, a former member of Mr. Reagan's Council of Economic Advisers. "It's more progressive from the poverty line up to incomes of about \$50,000 and above that it's less progressive."

## THE DON CARLOS

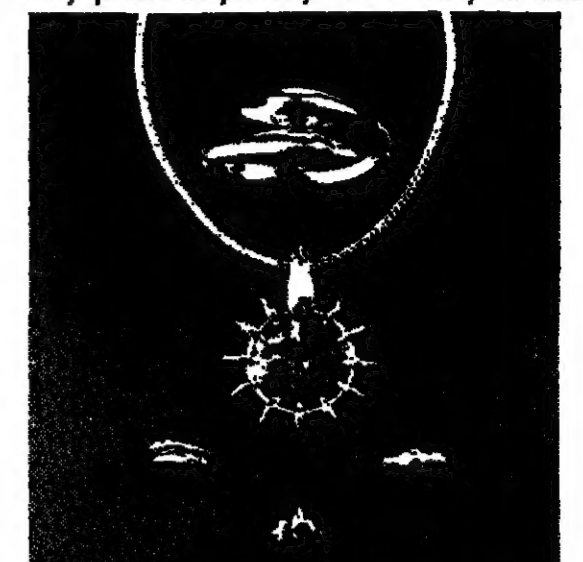
★★★★★

MARBELLA'S FINEST BEACH

DON CARLOS RESORT HOTEL

The Golondrinas Estate • Marbella • Spain  
Telephone: 83 11 40/83 19 40 Telex: 77015-77481

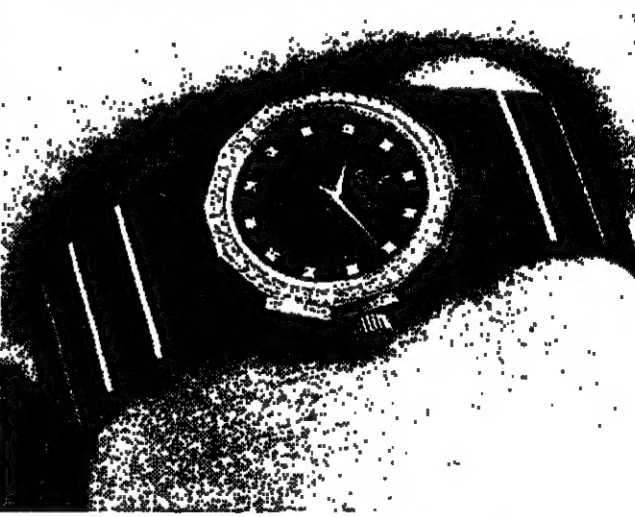
Every piece of jewelry has a story to tell.



ilias LALAOUNIS

PARIS - 364, RUE ST-HONORE (PLACE VENDOME)  
GENEVA - "BON GENIE", ZURICH - "GRIDER"  
ATHENS - 6, PANEPHISTHOU AVENUE  
HOTEL GRANDE BRETAGNE & ATHENS HILTON  
MYCONOS, CORFU, RHODES  
NEW YORK - 4 WEST 57 TH STREET & FIFTH AVENUE

## CONCORD MARINER SG



Concord Mariner. For her, 18 karat gold, black chromium stainless steel, diamonds. Quartz. Water-resistant. An art carried to perfection in Swiss watches.



MELLERIO  
8, rue de la Paix  
75002 PARIS  
201 57 53

EXPOSITION DE LA COLLECTION

## PUBLIC NOTICE

Major

## DISPOSAL AUCTION

of several hundred exceptionally fine and medium quality, handmade

## PERSIAN CARPETS

rugs and runners...

and others from the more important weaving centres of the East. Included are many antiques, silks, kelim, nomads and other unusual items, not generally to be found on the home market. This merchandise is the property of a number of principal direct importers in the U.K., which has been cleared from H.M. Customs & Excise bond, to be disposed of at nominal or no reserve for immediate cash realisation. Every item guaranteed authentic. Expert advice available at time of viewing.

To be transferred from bonded warehouses and offered at the:  
**London Marriott Hotel, Duke Street, Grosvenor Square, London W1 on SATURDAY 1st JUNE at 3.00pm**  
Viewing from 1.00pm same day

Payment: cash, cheque or all major credit cards.  
Auctioneers: A. Wastley Briscoe & Partners Ltd., 67/68 New Bond Street, London W1.

# Marriott Hotels in Europe

AMSTERDAM • ATHENS • LONDON • PARIS • VIENNA

Marriott  
HOTELS • RESORTS

For reservations: Frankfurt ☎ (069) 28 74 92 • Munich ☎ (89) 18 20 93 • Paris ☎ (01) 079 11 37 • London ☎ (01) 439 0281 • Amsterdam ☎ (20) 43 51 12 • Milan ☎ (2) 345 2009 • Zurich ☎ (01) 302 0979 • Utell International or your Travel Agent.

## China Ordering Students To Take Army Training

The Associated Press

BEIJING — Compulsory military training for more than 50 million Chinese secondary school students and more than a million university students will begin in September at selected schools, the government announced Wednesday.

The official Xinhua press agency, quoting the Liberation Army Daily, said 52 colleges and 107 secondary schools would be chosen to go first in reintroducing military training throughout the nation.

The Beijing and Qinghai universities in the capital are among those selected, the report said. Later, all university and secondary students will be required to take training.

Besides the 50 million secondary students in China, there are 1.2 million in universities and other institutions of higher learning.

After completing the recruit training, university students will take courses to prepare them as junior officers in the reserves.

A revised version of the 1955 military service law, enacted a year ago by the National People's Congress, ordered a restoration of military training in schools. Such training was phased out in the 1950s.

The 1984 law retained conscription as the "basic military system in China," augmented by volunteers, civilian militia members and reservists. The law also ordered restoration of military ranks, which were discarded in 1965. A delay in

this has been laid to bureaucratic problems.

The law states that all citizens have an obligation of military service. Men from 18 to 22 are subject to duty. Women of the same age group can be inducted "if needed."

Service is three years in the army and four years in the air force and navy.

In another development, the Beijing city government announced a new policy for university graduates sent to work in remote areas. A change to assure students the right to return to their home town came one month after a sit-in at city hall here by exiles who had been away from Beijing since 1968.

Henceforth, graduates who volunteer for eight years of work in Tibet and in the barren western province of Qinghai will retain their Beijing residence permits and be able to return when their time is served, the city government said.

Graduates assigned to other remote areas may apply to come home but their return will require approval from the city's higher education bureau.

The new regulations were reported Tuesday by Xinhua.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.

Previously, work units where volunteers were assigned had the power to decide whether and when members could go home.

In Beijing and other cities, residence permits are required to obtain housing, work and ration coupons.



Arcely Cabales, right, and Sohair Balkandali.

## U.K. to Change Entry Laws

Reuters

LONDON — Britain plans to change its immigration laws because the European Court of Human Rights found it guilty of sexual discrimination.

The court in Strasbourg ruled Tuesday in favor of three foreign-born women, Nargis Abdulla from Malawi, Arcely Cabales from the Philippines and Sohair Balkandali from Egypt, permanently resident in Britain. Their husbands, also foreign-born, were refused permission to join them.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

The court ruled that this was a breach of the European Human Rights Convention.

Following the decision, Home Secretary Leon Brittan promised changes.

"We are signatories to the convention and have to abide by the convention," he said.

Current British immigration law allows only women with at least one British-born parent to bring their husbands in from abroad. No such restrictions apply to foreign-born men bringing in wives.

## Unemployment Is Still Primary Worry

By Charles D. Sherman

International Herald Tribune

PARIS — Despite signs of international recovery from the deepest recession since World War II, unemployment stands as the chief worry in the major industrialized democracies, according to a poll conducted for the International Herald Tribune.

As in four similar surveys since 1982, the issue of work dominates other public concerns, including nuclear weapons, threat of war, crime, inflation and excessive government spending.

In the eight countries polled — France, Britain, West Germany, Italy, Spain, Norway, Japan and the United States — concern over jobs showed a clear increase over the previous surveys, with the exception of Norway.

Each survey has included the same broad question, a "barometer," designed to test public opinion on national security and economic issues. The rest of the questions in this survey were focused on the impact of computers and technology on society.

The polls have been cosponsored by the Atlantic Institute for International Affairs, a private research group based in Paris; Louis Harris International, the polling organization; and newspapers and radio stations in the eight countries.

Among the survey's other significant findings were the following:

• Crime was the second greatest concern in West Germany, Britain, Italy and the United States.

In the United States, 42 percent of those polled expressed worry over crime, a jump of 12 percentage points over a survey last spring. The issue was highlighted in the United States in recent months by an incident on the New York City subway in which a passenger, Bernard H. Goetz, shot four persons he believed were threatening him.

• Anxiety over the possibility of war breaking out has declined steadily in a climate of renewed arms control talks between the Soviet Union and the United States and the appearance of greater stability in the Kremlin leadership.

## 9,000 People Surveyed In 8 Countries for Poll

This survey, the fifth in a series over the past three years, was designed to test sentiment on questions related to national security and on economic concerns in seven Western nations and Japan. It focuses on attitudes toward the growing use of technology in the work place.

The poll, conducted by the International Herald Tribune, the Atlantic Institute, Louis Harris International and an international media group, surveyed opinion among 9,000 people. The interviews were conducted in April and May.

Sponsors included Aftenposten in Norway, Asahi Shimbun of Japan, Le Figaro in France, the Financial Times of London, El Pais in Spain, Il Sole 24 Ore in Italy, USA Today in the United States, and Westdeutscher Rundfunk and Die Zeit in West Germany.

The Atlantic Institute for International Affairs is a private research center in Paris. Inquiries and orders for the data should be addressed to the Atlantic Institute at 9 Avenue Hoche, 75008 Paris.

In Britain, the fear of war was listed by 25 percent of the respondents, as contrasted with 40 percent a year ago. Similar trends, though less pronounced, were found in France and Italy. West Germans remained the least fearful about the threat of war, with only 14 percent listing it as a concern, the same level as last spring.

A third of the Americans polled said they feared a war, along with 36 percent of the respondents in Japan. Both levels were unchanged from the last survey.

• West Germany appears to be undergoing a resurgence of concern about nuclear weapons. The North Atlantic Treaty Organization is pursuing the installation in Europe of U.S. intermediate-range nuclear missiles in the face of renewed protests. A quarter of the Germans surveyed said they were worried about nuclear arms, a return to levels found in the 1982 poll after a drop last year.

Spaniards, now debating closer military links with the Atlantic alliance, show sharply increased concern over nuclear arms.

• Only in the United States, where government deficits are large and growing larger, does concern over excessive government spending draw a strong response.

• Few respondents believe that the military strength and preparedness of their countries is inadequate. In all countries but the United States, 10 percent or fewer expressed concern over defense, the category drawing the lowest response rate of the survey.

It is the degree to which concern about unemployment overshadows all other concerns that remains the poll's most consistent result. In France, West Germany and Spain, the response rate to the issue of joblessness was double that of any other concern.

French anxiety over employment hit 80 percent for the first time in the series of polls, with 90 percent of blue-collar workers expressing fear of joblessness. France has been undergoing a stiff economic austerity program aimed at increasing productivity. Official figures show unemployment at 2.3 million people, about 10 percent of the work force.

Two of every three West Germans polled listed unemployment as a critical issue. While factory workers showed strong concern over the future of the workplace, employers and professionals responded even more strongly, with 74 percent expressing concern.

In Spain, in the highest response recorded, 89 percent said work was a major worry.

Only in the United States and Japan, where the improved economic outlook has been most pronounced, did fewer than 50 percent of those polled identify unemployment as a concern.

## Poll Finds Fear That Computers Cost Jobs

(Continued From Page 1)

French, Italians, Norwegians and Japanese agreed.

Americans, regardless of sex, age, occupation and politics, voiced great optimism that jobs would be created; they also indicated far more experience with information-processing systems — 37 percent as compared with 11 percent in West Germany and 14 percent in Japan.

The difference between public opinion and that of policy-makers may lie in short-term and long-term views.

Policy-makers envision a post-industrial society in which information replaces land and factories as a measure of wealth and computers assume routine tasks. The general public sees and feels the immediate effect when two secretaries in a four-women insurance office are replaced by a word processor, or traditional economic sectors such as steel or automobiles suffer mass layoffs because of increased automation.

How to find new jobs for those lost is what causes public concern, said John Marcum, an American who heads the OECD's Department of Science and Technology Policy.

"In the short-term, there are layoffs in given sectors and short-term and painful dislocation of the work force," he said when asked to comment on the poll results.

The substitution of computers for workers is "why we get this great bulge of unemployment among the young," said Thomas T. Stonier, head of the Science and Society Department at Bradford University in Britain and author of a recent book on the new information economy.

Often unable to function in an information economy, young people pose a challenge to the economic and social stability of the society, he said in a telephone interview.

This challenge can be expressed as hooliganism, crime in the streets or extreme politics.

Mr. Stonier predicted that the new information technology would create new jobs but that they would be vastly different from many jobs today. The new opportunities will not mean an increase in employment, he said.

In France, Jean-Marie Poutrel, research director at the Office of Economic Information and Forecasts, a nonprofit group, said that without doubt the increased use of such information systems would alter jobs, especially in traditional fields like engineering, metallurgy

QUESTION: Would you agree that it will be increasingly possible to use information stored in computers to invade privacy?

Country	Agree (%)
Britain	75%
France	71
Italy	37
Japan	50
Norway	56
Spain	69
United States	68
West Germany	51

information technology is more difficult to explain, said one expert.

Fritz Yagoda, market research manager on technical questions with the Frankfurt branch of Diebold-Germany, an international consulting company, said that Germans were relatively conservative about accepting innovations. Before agreeing to retraining, he said, Germans would want to know when it would take place. Germans expect adult education on company time, not weekends or after work, he said.

Nearly half the Germans doubted that information processing systems would help "people like me" simplify everyday problems.

But most people polled were optimistic about how computers would affect daily life and chores. Sixty-three percent of the Americans thought computers would make life easier, and 77 percent said such systems would take the tedium out of work.

The Spanish were almost as enthusiastic as the Americans, with three-quarters expressing optimism that tedious tasks could be eliminated. Like the Americans, they believed that people would become less interested in their work, but 64 percent felt that use of the systems would simplify daily life.

Perceptions of what is inhibiting the implementation of the new technology vary from country to country.

In the United States, where schools have often been charged with adult education and job training, 64 percent of the respondents faulted the schools. The French, whose government recently started a widespread program to equip schools with computers, found popular prejudices to be the greatest barrier (47 percent). Forty percent of the Japanese, 39 percent of the Norwegians and 38 percent of the Germans had no opinion or were not sure.

Forty-three percent of the British cited labor unions as an inhibitor.

Thirty-five percent of Americans and 37 percent of Italians — considerably above the other countries polled — believed that political leaders were holding up development of the new technologies. But more people cited "popular prejudice" than any other barrier.

Mr. Poutrel believes that response may also reflect a popular ignorance about the information revolution.

Mr. Vogel pointed out that the technological leap to word processors had been greater for the Japanese, whose character-based written language has made even a typewriter keyboard impractical. Given Japanese tradition, retraining would not normally pose a problem, according to Mr. Vogel, who questioned that poll finding.

"If it is through the office, they will do what the office says," he said.

The apparent West German reluctance to become part of the new

## DOONESBURY



## THE DON CARLOS

MARBELLA'S FINEST GARDENS

DON CARLOS RESORT HOTEL

The Golondrias Estate - Marbella - Spain

Telephone: 83 11 40/83 19 40 Telex: 77015/77481

**SKY CHANNEL**

BROADCASTING TO CABLE COMPANIES IN EUROPE & THE UK VIA SATELLITE

"Europe's Best View"

PROGRAM THURSDAY 30th MAY UK TIMES

13.35 MOVIE IN	18.30 CHARLIE'S ANGELS
14.30 SKY TRAX 1	19.30 SKYWAYS
15.30 SKY TRAX 2	20.10 THE UNTOUCHABLES
16.30 SKY TRAX 3	21.05 DAVID CUP TENNIS
17.30 SKY TRAX 4	22.00 SKY TRAX
18.30 THE LUCY SHOW	23.05 CLOSE

SKY CHANNEL TV ADVERTISING SELLS PRODUCTS FAST - AUDIENCE DATA CONTACT: SKY CHANNEL SALES, LORRAINE, 17-19 STRATFORD PLACE, LONDON W1N 9AF. TEL: LONDON (01) 493 1168 TELEX: 288885.

## AUTOS TAX FREE

COOPER ST JAMES

OFFICIAL AGENT

OF BMW (GB) LTD

While you are in Europe, we can offer considerable savings on brand new BMW cars to meet specifications. Full factory warranty.

We can also supply right or left hand drive cars from BMW of local origin. We also supply factory built, fully road legal BMWs and the Alpina BMW range too.

Call London (01) 629 6699.

## NEW MERCEDES

PORSCHE, BMW, EXOTIC CARS

FROM STOCK

For IMMEDIATE delivery

BEST SERVICE

Special for first time buyers, based on current U.S.A.

RULE INC.

Tel: 0202 52 0000, Frankfurt

W. Germany, Tel: 09 222222, Tel: 01 559

Information only by phone or letter.

## 10 YEARS

We Deliver Cars to the World

TRANSCO

Keeping a constant stock of more than

300 brand new cars,

making 5000 happy clients every year.

Send for free multicolored brochure.

Transco SA, 55 Norddamm,

7200 Geneva, Switzerland.

Tel: 022 542 62 46, Tel: 022 542 62 46

## OCEANWIDE

MOTORS GmbH

Since 1972, experienced car trader for

Mercedes, Porsche, BMW, immediate

## SCIENCE

## Vietnam Threatened by Extensive Deforestation

By Thomas W. Netherer  
New York Times Service

GLAND, Switzerland — Vietnam faces an environmental catastrophe brought on by three decades of warfare and continuing abuse of the land by a rapidly growing population, an international conservation group has concluded in a new study.

Concerned about the threat that a degrading landscape poses to food production and economic progress, the Vietnamese government has joined forces with independent international conservation agencies to fight the environmental destruction.

Current trends could leave the nation nearly barren of forests by

the year 2000, unleashing a cycle of severe flooding of industrial and agricultural lands and causing food and energy shortages, according to the study by the International Union for Conservation of Nature and Natural Resources, which is based in this village 20 miles (32 kilometers) northeast of Geneva.

The study traces the destruction to the constant conflicts in Vietnam since 1945, in wars first with France and then with the United States that ended when Communist forces overran South Vietnam in 1975.

"During these wars, the population and the environment of Vietnam suffered terribly and the countryside was exposed to such levels of deliberate destruction that it gave rise to a new word in the English language: 'ecocide,'" said Dr. John Mackinnon, a consultant to the conservation group who made the study in a three-month visit to Vietnam that ended in January.

The joint study, stemming from a suggestion by the Vietnamese of an official of the conservation organization two years ago, calls for a national conservation strategy to be inaugurated this summer. It would include a massive reforestation program, family planning and a campaign to make the public aware of the need to preserve the environment.

The initial cost of the program has been estimated at about \$750,000, with reforestation and other elements expected to cost millions more, according to officials of the World Wildlife Fund, which released the study. The fund is a sister organization of the conservation union, and is also based on Lake Geneva.

The 97-page document, still in draft form, portrays a basically rural, agricultural nation devastated by "deliberate destruction of the environment as a military tactic on a scale never before seen in the history of warfare," and still suffering its after-effects.

Today less than 23 percent of the nation is covered by forest, down from 44 percent in 1943, with a huge, barren area encroaching on agricultural and forest land, according to the study. "One-third of the country is now considered wasteland," it says.

Food is of primary concern to the report's authors, who say the population of Vietnam is increasing by 2.7 percent a year and now, at 60 million people, is double what it was 40 years ago and among the densest in the world for an agricultural country.

"The country will no longer be able to feed its population and will have little else to sell in return for food on an international market also facing food shortages," the report said. "Cities will be overcongested and heavily polluted. Internal strife will be precipitated and national security weakened."

Citing figures provided both by the Vietnamese government and

U.S. sources, the report says the war cost Vietnam 26 million cubic yards of commercial timber and rendered useless more than 365,000 acres (150,000 hectares) of rubber plantations, either from bombing, bulldozing or spraying of herbicides.

"The long-term effects are, in fact, far more serious," the report said. "For more than 12 years after the spraying, the forests have never recovered, fisheries remain reduced in their variety and productivity even in coastal waters, wildlife has not returned, cropland productivity is still below former levels and there is a great increase in toxin-related diseases and cancer."

"The colossal damage from 25 million bomb craters, which caused displacement of a billion cubic meters of earth, results in health hazards and disrupts water flow," it added, "and the particles of shrapnel embedded in living trees renders their wood less valuable."

Officials of the wildlife fund said U.S. statistics indicated that more than 19 million gallons of herbicides, known as Agents Orange, White and Blue, were dumped on croplands and forests. The herbicides contained dioxins that remain at toxic levels today. The report cited Vietnamese figures that more than four million acres are affected.

Further damage was caused, the report says, by the clearing of large tracts of forest, agricultural land and "even villages and cemeteries" with giant bulldozers used by U.S. troops searching for guerrillas in the south, as well as by the burning of large forest areas by napalm bombing.

The report also contends that U.S. forces destroyed dikes and other "agricultural productive systems," created landslides in steep areas by bombing and by spraying an unidentified acid on limestone, attacked wildlife such as elephants and oxen with guns, bombs and napalm to prevent their use for transportation, and devastated large areas of land with "saturation bombing."

About 21 percent of Vietnam's 120,401 square miles (311,620 square kilometers) of land remain unsuitable for agriculture and 36 per-

cent for forestry, with 39 percent of the land capable of little or no productivity, the report says. "Current agricultural area is inadequate to feed the population fully, and large food imports must be purchased," the report added.

Citing a general lack of large wildlife because of war damage, Mackinnon indicated that shortages of food and the wide availability of firearms had led to the near disappearance of small, edible birds in some villages.

Mackinnon and two Vietnamese officials, Dr. Vo Quy and Dr. Le Thac Can of the government's Committee on Environmental Research and Protection, concluded, "Restoring the environment and repairing some of this war damage is now a major government program, but the scale of the problem is larger than Vietnam's technical and financial resources can solve unaided."

Mackinnon noted, however, that even without war devastation, Vietnam would face problems of poor soil and too much water, with acidic ground, irregular water flows, and floods and typhoons in its major river deltas.

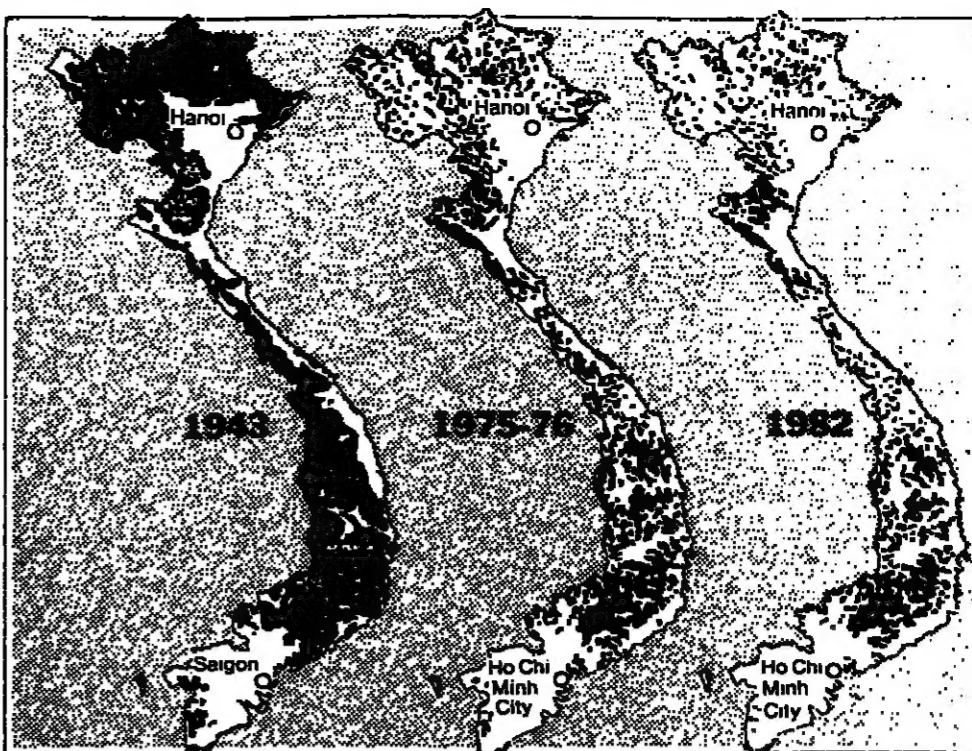
"But this was made worse by war," he said. "There are toxic substances still in the soil in the south, forest area was lost, communications disrupted, industry knocked right back. So they're really basic farmers again with hand tools and hard work, trying to get the country back together again."

## Colorado Fossil Tied To Herbivorous Dinosaur

The Associated Press

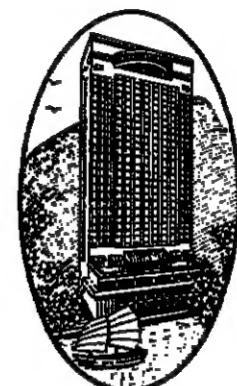
GRAND JUNCTION, Colorado — A fossilized skull found in a ravine west of here lay on a shelf for three years before a scientist determined that it was the first evidence of the existence of an iguodon in the Western Hemisphere, scientists said.

The 135 million-year-old skull of the plant-eating dinosaur was discovered in 1982 by a hiker, a paleontologist at the Museum of Western Colorado said.



Charts show how Vietnam's forest lands (black) are disappearing.

In Hong Kong  
we are in the Central Business District.  
And yet just minutes from Kowloon.  
You should be, too.

HOTEL FURAMA  
INTER-CONTINENTAL

THE ADVANTAGE IS INTER-CONTINENTAL®

INTER-CONTINENTAL HOTELS

One Connaught Road, S/255111, Tel.: 73081  
For reservations call: Tokyo 2150777,  
Singapore 2202476, Osaka 2640666, or call your nearest  
Inter-Continental sales office.

## IN BRIEF

## Malaria Vaccine Ready for Testing

WASHINGTON (AP) — A prototype malaria vaccine that works on mice and rabbits has been developed and could be tested on humans as early as this summer.

According to R. Ripley Ballou, one of a team at the Walter Reed Army Institute of Research here who developed the vaccine through genetic engineering, the prototype could lead to the production of a vaccine for general release in three to five years. The quest for a malaria vaccine developed by conventional means has been blocked so far because there was no way to grow the parasite in the laboratory, but progress is now being made on a synthetic vaccine.

Malaria, caused by a one-celled parasite, has been eradicated from the United States. It remains the leading killer in the Third World, where there are an estimated 150 million new cases a year. More than a million African children die from the disease each year.

## With Only One Eye, Ants Get Lost

ZURICH (NYT) — Tests have shown that an ant with one eye covered cannot memorize a route in terms of landmarks seen through the other. And it cannot find its way when the covered eye is exposed and the other eye covered. However, when its navigation is based on polarization of light in the sky, such "interocular transfer" of information does enable it to keep track of its route.

Tests conducted on long-legged Saharan desert ants at the University of Zurich in Switzerland discovered that an ant can find its way back to its underground nest from a food source as much as 65 feet (20 meters) away, using only the polarization of light in the sky as a compass. Such polarization, or vibrational orientation of light waves, when seen at right angles to the direction of the sun, indicates the sun's position in the sky. According to the authors of the report, in Nature, ants may be unable to transfer landmark memory from the visual system of one eye to that of the other because the insects depend on binocular vision to store such information.

## Ice Shelf's Role in Sea Levels Studied

NEW YORK (NYT) — The world's largest shelf of continental ice, roughly equal in area to France, is suspected sometimes to disintegrate, unplug the flow of ice from West Antarctica and causing worldwide sea levels to rise about 30 feet (9 meters).

As part of an international study of the Ross Ice Shelf, holes have been melted through the 1,300-foot apron to the underlying ocean, at a site 300 miles (490 kilometers) from where the shelf disintegrates into icebergs. The first hole, produced by a "flame drill," made it possible to examine the underlying ocean and sea floor for clues on the history of the shelf.

In 1978, a Soviet device melted a new hole, and core samples of the ice were extracted. The top 1,345 feet of ice was continental, having slipped off the continent and become waterborne five centuries ago. The bottom 33 feet, however, was frozen seawater, indicating that the southern part of the Ross Ice Shelf is gradually gaining ice from below. Found in this sea ice were the remains of microscopic diatoms dependent on sunlight, which must originally have lived in the open ocean.

## Scanner Helps Diagnose Brain Illness

LOS ANGELES (AP) — A brain scanner that can help differentiate between Alzheimer's disease and similar forms of dementia might some day be used to diagnose even the mildest forms of Alzheimer's disease. The positron emission tomography, or PET, scanner can spot a treatable form of dementia that is similar to Alzheimer's disease. It can also diagnose Huntington's disease in teen-agers years before symptoms appear, according to Michael Phelps of the University of California at Los Angeles.

Alzheimer's disease, progressive senility leading to loss of body control and death, is now diagnosed with certainty only by examination of the brain after death. Dr. Phelps said, adding that the new scanner can distinguish between moderately advanced Alzheimer's disease and two other illnesses: pseudo-dementia and multiple-infarct dementia. A completed PET scan is a computer-processed series of pictures of the movement of nutrients through the brain, showing which areas of the brain are active and which are dormant during a given activity.

## AIDS Virus Found in African Monkey

NAIROBI (Reuters) — Research workers in Nairobi have found that the vervet monkey, common in Kenya and other African countries, is a carrier of the virus thought to cause Acquired Immune Deficiency Syndrome, or AIDS.

Dr. James Elise, the American director of the Institute of Primate Research, said that research showed 30 percent of the vervet monkeys tested at the institute carried the virus HTLV-3. He said blood samples had been sent to the London School of Hygiene and Tropical Medicine and to Britain's Royal Cancer Institute for more detailed analysis.

The institute, in the Olupia forest in Ngara, a Nairobi suburb, uses monkeys and baboons to research diseases which affect humans, fertility and the effects of contraceptive drugs.

## California Vines Threatened by Pest

SAN FRANCISCO (UPI) — Phylloxera, a vine pest that devastated California's wine-growing industry 100 years ago, is making a reappearance and has already forced some growers to turn to other crops, officials said.

The phylloxera, an aphidlike plant louse, is eating away at rootstocks in wine-growing areas of Northern California, particularly in Monterey County, where the emphasis is on white grapes. The pest damages the plant underground, making it hard to distinguish if a plant is under attack until the dying process has started.

Officials of the state's wine industry say a quarantine—similar to the one used in California's Mediterranean fruit fly troubles several years ago—may have to be imposed. Destruction from the phylloxera takes between two and five years.



## Baccarat

30 bis, Rue de Paradis  
75010 PARIS(thru the archway)  
Tel.: 770 64 30When in Paris...  
visit our Museum  
and showroomsOpen Monday - Friday  
9 a.m. to 6 p.m.Saturday 10 - 12 a.m. - 2 - 5 p.m.  
Also in selected stores  
near your home.

Catalogue on request

## INTERNATIONAL POSITIONS

MIS Manager  
top remuneration package  
Netherlands

A challenging position has become available for an experienced and high calibre MIS Manager. Controlling and developing the information systems throughout Europe, you will be working in the European headquarters of a world renowned market leader involved in international freight handling.

In addition to contributing towards DP strategy, you will be involved with developing unique applications covering operational requirements and enhancing both financial and operational systems to satisfy growing demands brought about by continual expansion and acquisitions.

This interesting position will require a person with several years' experience in a senior MIS role, significant staff responsibility and experience of multi-location processing. You should also have the ability to deal with people across all levels and disciplines, particularly users within an operational context.

An excellent salary will be negotiated with the successful applicant and benefits, including a quality car, will be provided - demonstrating the importance of this position. Full relocation assistance will also be provided.

This position offers a unique opportunity to develop within an established and dynamic company. Those seeking a passive role should not apply. Candidates, male or female, should apply in confidence with a full CV, outlining why they feel they meet this requirement and quoting reference MCS/6051 to:

Alannah Hunt,  
Executive Selection Division,  
Price Waterhouse,  
Southwark Towers,  
32 London Bridge Street,  
London SE1 9SY.



## "INTERNATIONAL POSITIONS"

appears  
every Thursday  
& Saturday

TO PLACE AN ADVERTISEMENT  
contact your nearest  
International Herald Tribune  
representative or Max Ferraro:  
181 Ave. Charles-de-Gaulle,  
92521 Neuilly Cedex, France.  
Tel.: 747.12.65 - Telex: 613593.

## The President of a Group of companies in Geneva is looking for a:

## CHIEF EXECUTIVE SECRETARY

who will be entrusted responsibilities, with perfect command of English, fast shorthand and an excellent knowledge of French. The candidate should be able to deal with people at high level, understand international business, be accurate and accept irregular working hours.

Very good compensation is offered to the right person. Work permit will be obtained on long-term contract.

If this position appeals to you, please send your applications in confidence to:

The Personnel manager,  
Chiffre, A 18-118477, PUBLICITAS, CH 1211 Geneva 3.

CBS  
LOISIRS Bilingue anglais,  
le sens des chiffres,  
le goût du marketing.

150 000

Une triple exigence, justifiée par les responsabilités à prendre en charge au sein du Service Marketing de cette jeune et créative filiale. Premier volet : assurer les liaisons avec les usines, toutes localisées hors de France et notamment en Angleterre. Prévisions de vente, commandes, mises en fabrication, planning de livraisons, transport... Beaucoup d'informations à transmettre, de problèmes à régler, de positions à défendre. Dans un anglais parfait, bien sûr, - si c'est votre langue maternelle, tant mieux ! -

Deuxième volet (1/3 de votre temps) : un rôle de chef de produits avec des lignes de produits à gérer. Au total, un rythme de travail soutenu, des contacts multiples, téléphone, télécopieur, réunions en France et à l'étranger... Base : Paris banlieue Nord - courts déplacements.

Si ayant exercé une responsabilité similaire, vous vous sentez taillé(e) pour ce poste, à vous de nous en convaincre ! Ecrivez nous référence 377 531HT aux consultants de SIRCA - 64 rue La Boétie - 75008 Paris. Merci de joindre CV, photo et de préciser votre rémunération actuelle. C'est peut-être vous, bientôt, qui rejoindrez le groupe CBS, leader mondial de la communication.

MEMBRE DE SYNTHEC

## TIME

The Weekly Newsmagazine

We are looking for an experienced sales manager to work in our Düsseldorf office. This is an opportunity to join the international sales operation of one of the largest publishing companies in the world.

You have recently worked in an advertising or marketing department, in an advertising agency or for a publishing house. Most importantly, you enjoy selling, you have initiative and the ability to make decisions independently. You are ideally 30-35 years of age, a German national or fluent in written and spoken German with a good command of the English language.

We offer an excellent salary plus personal expense allocation, company car and additional social benefits.

Please send your application in English to Gérard Baignères, European Publishing Director, Time Magazine, Time & Life Building, 153 New Bond Street, London W1Y 0AA.

All applications will be treated with strictest confidence.

CARON RECREATES ITS MOST FAMOUS PERFUME  
34, AVENUE MONTAIGNE - PARIS  
Bloomingdale's: Dallas, New York, Miami, / J. Magnin: San Francisco.

# INTERNATIONAL Herald Tribune

Published With The New York Times and The Washington Post

## Duped in Southern Africa

Barely a year ago South Africa agreed, in a deal brokered by the United States, to remove all its raiding forces from Angola in return for the closing by Angola of the bases from which SWAPO guerrillas operated in Namibia. Now, with some of its forces still in Angola, it is revealed to have sent a sabotage squad hundreds of miles farther north to attack an American-run oil installation in Cabinda province. The squad, carrying incendiary shells, was intercepted 300 miles from the Gulf facility that carries Angola most of its foreign currency. An Angolan mission was reported in New York on that very day seeking expansion capital. Evidently the South Africans meant to spoil Angola's day in a spectacular way.

South Africa's policy is illuminated as by a midnight flare. It pummeled Angola into an agreement that would diminish the guerrilla challenge Pretoria faced in its illegal colony of Namibia, which, in the fifth year of the Reagan administration, seems still remote from independence. The same agreement left the Angolan government facing a strong South African-backed guerrilla challenge of its own. Then, having made the agreement, Pretoria kept on selectively mounting the same destabilization tactics it had promised to abandon.

The United States is left looking very foolish. A friendly government for which it did a great favor has duped it. Let us try to imagine

the anti-Communist nonsense that Pretoria would have pumped out if its commandos had secretly succeeded in blowing up Gulf Oil. The Reagan policy of "constructive engagement"—treating South Africa in a respectful fashion to gain its moderation in foreign policy and domestic policy alike—is embarrassed on the very ground where its greatest triumph had been proclaimed. Angola's Marxist government, meanwhile, has a new excuse to embrace the Cuban protectors whose removal is the administration's prime regional goal.

We were among those who a year ago felt cautiously hopeful about the prospects of American diplomacy in southern Africa. But things have not been going well. The other principal front where South Africa's policy of regional accommodation has been on display is in Mozambique. There rebels continue to assault the local government even as South African authorities insist that they do not sponsor and cannot control the foreign element that help keep the resistance going.

This is the other face of apartheid. The system not only represses the black majority at home; it also gives the white minority the power and the arrogance to torment South Africa's neighbors. Others in the region need the abolition of apartheid scarcely less than do the people of South Africa.

—THE WASHINGTON POST.

## Bigotry Cripples Sri Lanka

Solomon Bandaranaike is half-remembered as a lively, leftist prime minister of Ceylon, the tear-shaped island nation now called Sri Lanka. His story is now retelling, for it helps in understanding why Sri Lanka is squandering its prosperity in a bitter civil war between the Sinhalese majority and the Tamil minority.

Mr. Bandaranaike belonged to a prominent Sinhalese Christian family with close ties to the British. His father helped found the Colombo Turf Club. When the son returned from Oxford in the 1930s he converted to Buddhism, adopted national dress and espoused leftist and nationalist causes. His party came to power in 1956, just as Ceylon was celebrating the 2,500th anniversary of Buddha's attainment of Nirvana. Riding with this fervor, he endorsed promoting Buddhism and making Sinhalese the new nation's official language. Language became the explosive question.

The Sinhalese, who make up three-fourths of the population, felt cheated of their share of good jobs and pay. They blamed the British for favoring the Tamils, a Hindu people with their own language. So the new prime minister approved a "Sinhala only" policy to handicap the more prosperous minority.

He also proposed allowing "reasonable use" of Tamil — and was condemned by Sinhalese radicals. Communal riots cost hundreds of

lives. In the Tamil north, the Sinhalese script was defaced; in the Buddhist south, monks organized angry sit-ins. The prime minister retreated, but not fast enough. On Sept. 25, 1959, he was murdered by a Buddhist priest. The wheel has turned, but nothing has happened to end the estrangement between two peoples who have shared the island for centuries. President Junius Jayewardene is a conservative whose free market policies have doubled per capita income. But it is prosperity without peace. Some Tamils, resorting to insurgency, agitate for independence. The military budget has swollen tenfold in five years, and 600 people have been killed in six months. The government has turned to Israel for military advisers. Tamils have turned to India, where 50 million Tamils dominate a nearby state.

Mr. Jayewardene warns that he may impose martial law and rejects negotiations with Tamils who even hint at separatism. Waylaid is the president's cautious offer of greater autonomy. Faced with a backlash from Sinhalese extremists, Mr. Jayewardene had to retreat. Nothing better can be expected from the opposition party, led, as it happens, by Prime Minister Bandaranaike's widow, Sirimavo.

Bigotry has defeated left and right. It is a fearful symmetry that beggars optimism.

—THE NEW YORK TIMES.

## Another Immigration Bill

Major immigration reform legislation was reintroduced in Congress last week, and The New York Times promptly dubbed the proposal the "Simpson-Nobody bill." Earlier versions of the measure had been offered in the last two Congresses by the bipartisan, bicameral team of Senator Alan Simpson, a Wyoming Republican, and Representative Romano Mazzoli, a Kentucky Democrat. Senator Simpson is alone this year — temporarily, we hope — in offering the new proposal, a somewhat modified version of the bill that has passed the Senate twice before.

Has Mr. Mazzoli deserted the cause? That is doubtful, but his party seems to be in disarray over how to proceed. House Judiciary Committee Chairman Peter Rodino has long been a leader in immigration legislation, and it is possible he wants to take the lead in the House this year. There is also a rumor that Representative Mazzoli, who voted to seat Republican candidate Rick McIntyre in the bitter dispute over the vote in the 8th District of Indiana, has been warned by other Democrats that they will seek revenge by blocking legislation that bears his name. This is a deplorable tactic, but it might explain the Kentucky's reluctance to

become the prime sponsor of the new bill. In any event, House Democrats should get their act together in support of a proposal in this area of great national interest and importance.

Mr. Simpson's new bill makes some concessions to the business community, which objected to the record-keeping provisions of the earlier bills. It also pulls back on the generous amnesty offered before, by delaying implementation until a commission certifies that illegal immigration is in fact reasonably under control. In a concession to the Reagan administration, it sets a cap on what the federal government would have to pay to states, which will bear the heavy financial burden of providing services to newly legalized immigrants.

These changes in the bill should lock in the support of the Chamber of Commerce and the administration, and may win a few votes among those who opposed the original, immediate amnesty. That is good strategy on Senator Simpson's part. But what about legislators who preferred the old bill with its more generous amnesty? They have an obligation to enter the debate if they want to be part of the solution. What is the Democrats' response?

—THE WASHINGTON POST.

## Other Opinion

### Just Waiting in the Middle East

The forces of moderation are on the retreat. Beirut [is the scene of] some of the bloodiest fighting of the 10-year civil war. In Kuwait, the country's ruler was fortunate to escape assassination. Iraq and Iran have resumed air and missile attacks on each other's capital cities. In Cairo, security forces closed off the area around the American and British embassies to ensure that they had frustrated plans to ex-

plore a car bomb. The answer to the perpetrators of violence would be a swift Arab summit, with majority voting and a plan of action [in] the political and economic spheres. That course would be supported by Western Europe and perhaps evoke an American response which might offer greater hope for Palestinians under Israeli occupation. To continue waiting for something to turn up can only further surrender the initiative to the radicals.

—The Financial Times (London).

## FROM OUR MAY 30 PAGES, 75 AND 50 YEARS AGO

### 1910: 'Atrocities' Reported in Peru

LONDON — The secretary of the Anti-Slavery Society, having called attention to the atrocities on native Indian collectors of rubber by the agents of a British company in Peru, has received the following reply from the Foreign Office: "I am directed by the Secretary to inform you in reply that the question of the alleged ill-treatment of Indians in the Putumayo Valley is engaging the most serious attention of His Majesty's Government." A correspondent acquainted with the situation writes: "There is a strange similarity between the Congo system of exploitation and its resultant practices, and that of the Putumayo Valley."

### 1935: Six Killed in Rhodesia Strike

BULAWAYO, Rhodesia — The strike of native miners in the Northern Rhodesian copper belt took an ugly turn when police were forced to fire upon a dangerous mob, and the Europeans of the region are now arming for their own protection. Six native rioters were killed when the police opened fire on a mob of 300 who were trying to rush the powerhouse in the mining town of Rounelopo. It had been thought that the trouble which rose in the copper belt a few days ago was over as the Royal Air Force planes which transported native troops to the mining region for police duty had overawed the native trouble-makers.

# Managua Arms, Havana Looms, Washington Trembles

By William Pfaff

PARIS — A booklet called "Central America as a European-American Issue," just published in New York by the authoritative Council on Foreign Relations, contains this statement: "Cuba today is, after the United States, the largest and most powerful military force in the Western Hemisphere — much more powerful than Canada or Brazil for instance. . . . (Britain might have been able to break its will on Argentina, but it would be hopelessly outclassed in a conflict with Cuba if it were not to use its nuclear weapons.)"

The writer is Irving Kristol, a member of the faculty of New York University, an editor of the influential journal *The Public Interest*, a columnist for *The Wall Street Journal* — in short, a major figure among those "neo-conservative" intellectuals who enthusiastically back the Reagan administration.

The statement, of course, is preposterous. But it is also significant.

The standard reference work on military forces is the yearbook of the International Institute for Strategic Studies, "The Military Balance." The current issue records Cuba as possessing total armed forces of 153,000 members, nearly two-thirds conscripts, with 190,000 reservists. The navy (12,000) has four submarines, two frigates and various coastal patrol and auxiliary vessels. The air force (16,000) is substantial, with 250 combat aircraft and some 38 armed helicopters.

Canada has smaller forces overall, with 160 combat aircraft plus helicopters, but a navy vastly outclassing Cuba's. Canada's industrial base — its GNP — is 30 times that of Cuba.

Brazil has regular military forces nearly twice the size of Cuba's, paramilitary security and militia services larger than the entire Cuban army, a navy of seven submarines, an



aircraft carrier, 10 destroyers, six frigates, etc. The Brazilian air force has 215 combat aircraft. The Brazilian GNP is 15 times that of Cuba. As for Britain — do we really need to go on? — it possesses an all-professional military service twice the size of Cuba's; one of the four principal navies in the world, with 56 major surface combat units and 32 submarines, most of them nuclear; an air force of some 650 combat aircraft. This is one of the world's serious military establishments, with rich combat experience, tradition, élan and a taste for trouble, as Argentina found out.

What on earth is Mr. Kristol talking about?

What is the Council on Foreign Relations doing that it would allow such a silly thing in one of its publications?

The answer, so far as Mr. Kristol is concerned, is undoubtedly that he believes what he wrote. He believes it without seriously examining the matter because if it were true it would validate a larger hypothesis about the nature of world affairs about which he feels no doubt. This is a comprehensible intellectual process but it often ends badly, as here.

Consider the case of Nicaragua, which is, of course, the preoccupation that lies behind what Mr. Kristol wrote. It is held in Washington that Nicaragua poses a threat not only to the Central American region but to the United States itself. A Joint State and Defense Department document on Nicaraguan military strength was issued in April. It stated that there has taken place in Nicaragua "a military buildup without precedent in Central America" with massive assistance from Cuba and the Soviet Union.

What has this "massive" effort produced? According to the Defense Department's own figures, there is now a Nicaraguan regular army of 30,000. There is an air force of 27 aircraft, four of them 50-year-old DC-3 Dakotas, and 36 helicopters, several of them a powerful new Soviet attack model to be used against the U.S.-sponsored "contra" guerrillas. The air force has 2,000 men in it, and the navy has a total complement of 1,000. The threatened United States has, today, more people on active duty in its armed services than the entire male population of Nicaragua.

What is going on here, as in Mr. Kristol's statement, is an attempt to make a tangible

and convincing threat out of an intangible one. The U.S. government, on ideological and political grounds, is convinced that the present government of Nicaragua must be overthrown. It believes, as Mr. Kristol puts it, "that at the heart of world politics today is an ideological conflict between two models of the future." Mr. Kristol adds of Central America: "It is perfectly conceivable that in the not too distant future the Reagan administration will feel that it has no alternative but to intervene militarily."

This is not a position for which Washington finds much support in Latin America, nor among U.S. allies in Europe. It may be a position to which the majority of people in the United States are opposed. However that may be, it is a case which merits attention and debate on its own terms. To attempt to substitute another argument is to lie.

Norman Podhoretz, the New York writer and editor who is also a prominent Reagan supporter, proposed last year that if George Orwell were alive today he would have become a neo-conservative intellectual and a backer of the Reagan administration. I myself have no privileged information on Orwell's preterrestrial views on such a matter. I would nonetheless think that the man who wrote so firmly on questions of language and truth, invented the concept of "Newspeak" and said that "political language — and with variations that is true of all political parties, from Conservatives to Anarchists — is designed to make lies sound truthful and murder respectable, and give an appearance of solidity to pure wind," might balk at how the Central American issue is being discussed by the Reagan administration and its friends.

© 1985 William Pfaff.

## Middle East Prospects: Peres Could Stoke the Politics of Peace

By Stephen S. Rosenfeld

WASHINGTON — Israelis are conducting a painful debate over whether, in order to get back three prisoners lost in Lebanon, they were right to free 1,150 Arab prisoners, most of them Palestinians and many of them convicted terrorists. The release could hatch more terror, by some of those released, or by others emboldened by the prospect of gaining liberty in another exchange.

But, little as they care to hear it, Israelis need to be reminded that the Palestinian problem is only in the second instance terror. In the first instance it is politics.

What can still be done to turn Palestinian energy from rage to conciliation? The prisoner exchange marked the failure of one Israeli answer. The previous Israeli government had invaded Lebanon primarily to solve the Palestinian question — by destroying the last adjacent PLO presence and by opening the way to absorb the occupied West Bank fully into Israel. Only the first of these two goals was achieved.

The new Israeli government has since accepted a requirement for a political solution. So far, however, Prime Minister Shimon Peres has accepted it only in words. He has pleaded preoccupation with leaving Lebanon and saving the economy.

While warily accepting the latest U.S. bid to renew the peace process, Mr. Peres has essentially sat on his hands. King Hussein of Jordan, Israel's would-be partner, has in effect reinforced the Peres strategy by keeping his own steps toward accommodation well short of the point at which America would be honored to insist that Israel respond.

In the American view, the onus for continued stalemate remains on King Hussein, and it is easy to see why Israel prefers it that way. Its plate is already full. Mr. Peres cannot possibly want the coalition-busting West Bank issue to come up until he has won a skeptical electorate that there is something good in it for Israel.

Besides, much is going on for Israel, in the area and in Washington. In the area, Israel is cutting its

losses in Lebanon. Mr. Peres's effort to warm the "cold peace" with Egypt may be moving. Syria is intransigent but isolated. Iran and Iraq continue their mutual bleeding. An Egyptian-Jordanian-Saudi-Israeli axis of moderation is holding. The "70s notion of an inviolable Arab juggernaut faded as oil prices fell. The Arab countries smart at American favor for Israel but decline to put their bilateral relations with Washington on the line.

In Washington, Israel enjoys what the head of the Israeli lobby calls its best relations ever. President Reagan is the soul of warmth, and the coldness Israel once feared from the Bechtel brothers, Caspar Weinberger and George Shultz, is gone. Annual aid is rising toward the (unadjusted)

dollar level of the whole Marshall Plan. Political disruptions like the kyrtion question are quickly eased. Israelis hope — here is the most difficult current problem area — that American arms sales to friendly Arabs can at least be contained.

All of this makes an appealing case for standing pat and waiting for King Hussein either to corral Yasser Arafat and make Israel an offer it cannot refuse, or, more likely, to fall short.

Politically it is turning out to be no strain for Mr. Peres to be open enough to negotiations and to calls for improving the "quality of life" on the West Bank, so as to satisfy the Reagan administration; Congress is even less demanding. Bitburg removed Washington's residual incli-

nation to demand major economic policy reform in return for extra aid. There is no explicit argument for Israel to do things differently.

Everyone is tired of alarms of doom and crisis ahead in the Middle East. Let it simply be stated here that Israel's policy is tragically shortsighted. The considerations that allow Israel to relax on the peace front would be better used as cushions for the risks it must take sooner or later if it is to break the status quo.

Israelis are always saying that pressure only freezes them. Well, they are under no pressure at present. It will never be easier. And Mr. Peres does not have that much time left on his lease on the premiership.

Satisfying the United States is one

## For the Time Being, Arafat Is Otherwise Engaged

By Joseph Kraft

WASHINGTON — Like the dog that didn't bark in the Sherlock Holmes story, the absence of Israel from the scene provides the master clue to the latest outbreak of violence in Lebanon. The fighting pits Arabs who want to come to terms with Israel against several groups of Arabs, including Syria, who don't. It is, literally, a war against peace.

The continuing struggle shows that, despite favorable elements, the political climate in the Middle East remains unripe for an Arab-Israeli accord. So the American policy of watchful waiting corresponds with the situation on the ground.

Shiites cheered in 1982 when the Israelis liberated their territories in southern Lebanon from the yoke of the Palestine Liberation Organization. Next the Shiites turned against the Israelis and used terror tactics to speed the occupying troops out of southern Lebanon. With their base there cleared, the Shiites do not want reconquest by the PLO forces of Yasser Arafat. So Shiites forces attacked the area still dominated by

Palestinian refugees around Beirut. Resistance came from three factions. PLO forces loyal to Mr. Arafat shot back from refugee camps transformed into fortresses. Medical aid to the besieged Palestinians was provided by the Druze, who are backed by Syria. Military aid to the Arafat forces came from a rump PLO faction, originally set up by the Syrians as a PLO opposition to Mr. Arafat.

Why did the Syrians turn their proxy forces against the Shiites? The obvious motive is to block any coming to terms along the Lebanese-Israeli border, where the Shiites seek accommodation with the Israelis. Accommodation would foster trends favoring a wider peace that are making headway in Israel and Jordan.

Under the terms of the coalition government, Prime Minister Shimon Peres has to step down and let Foreign Minister Yitzhak Shamir take over in the fall of 1986. But if Likud voluntarily withdrew from the coalition, Mr. Peres could probably stay in

power, with either a ministerial shuffle or new elections. So Mr. Peres has an incentive to make peaceful gestures to the Arabs that alienate Likud but not the whole Israeli electorate.

He has already ventured far down that road, pushing withdrawal from Lebanon at a rapid clip and negotiating a lopsided prisoner exchange. He has opened negotiations for a summit meeting with President Hosni Mubarak of Egypt. While refusing to talk directly with senior leaders of the PLO, he has expressed willingness to talk with a delegation headed by Jordanians and including Palestinians who might have PLO ties.

King Hussein has inched toward acceptance of an American proposal for Palestinian self-rule within the context of a Jordanian state. He has made up with Egypt, which openly favors such an arrangement. In long negotiations, he wrung from Mr. Arafat explicit willingness to trade land claims against political rights.

But Mr. Arafat has refused to acknowledge Israel's right to exist as asserted in UN Resolution 242. He has not abandoned hopes of creating an independent Palestinian state. He has still not explicitly accepted the concept of Palestinian self-rule under

Jordanian sovereignty. His refusal to accept those terms set the stage for the latest battle of Beirut.

Mr. Arafat tried to break out of the cage to move his forces from the Beirut camps to the Israeli border. To prevent that, Shiite forces struck the camps. Syria's proxies hit back at the Shiites to make certain that trouble would continue unabated.

The resulting stalemate puts the next step up to Mr. Arafat. He can bow to the pressures, throw in the towel on Resolution 242 and let King Hussein make peace with Israel along the lines advocated by Washington and Cairo. There is hope that this can occur soon, since the king is now in Washington. But Mr. Arafat will probably have to be ground down still further by the force of events.

In any case, until Mr. Arafat accepts 242 publicly, the United States is well advised in maintaining the present resistance to dealing with senior PLO officials. A stiffish attitude has already yielded dividends in Israel, Jordan and Egypt. Another dose will strengthen King Hussein in his continuing talks with Mr. Arafat.

As Secretary of State George Shultz keeps saying, it is not America's business to be more in favor of peace than the parties on the ground.

Los Angeles Times Syndicate.

## Republicans Have a Reagan Problem

By James Reston

WASHINGTON — Just one day before appealing to the Democrats on national television to support his tax reform bill, which is probably the most important and innovative proposal of his second term, President Reagan accused them of being soft on communism abroad, and of "pitting white against black, women against men and young against old" at home.

Those are fighting words, not likely to encourage the unity that Mr. Reagan needs and wants for tax reform in Congress. It was an odd introduction to his latest act and chance on the stage.

Mr. Reagan has been his own worst enemy lately. Why infuriate Tip O'Neill, who has the votes to beat him? Why, in the name of "reconciliation," did he misunderstand the history of the two world wars in his recent stroll through the semiotics of Germany? Why, on the eve of the second phase of nuclear arms talks with the Russians at Geneva, did he mock them as a declining force in the world?

The answer, I think, is that he sees no relationship between one thing and another, between the words his immediate audience wants to hear and his policies.

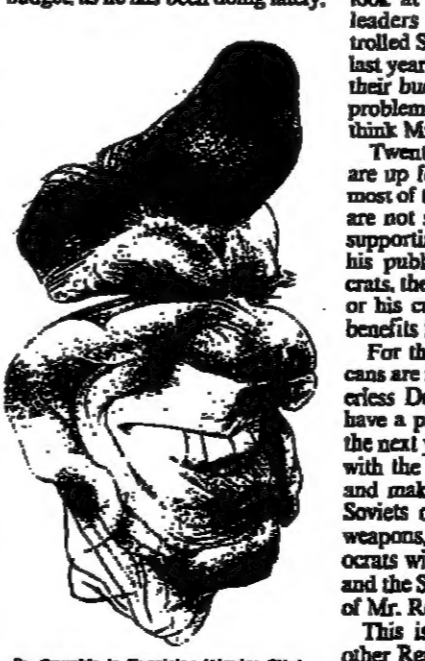
His performance on Memorial Day illustrates the point. He went to Arlington National Cemetery early in the morning, and with his usual grace celebrated the sacrifices and tragedies of human conflict and wiped the tears from his eyes.

Then, in a totally different mood, he flew to Disneyland in Florida and hugged the clowns, and went from there to Miami for a political rally and praised the "freedom fighters" of Nicaragua and condemned the Democrats for acting as if "a weaker America was a safer America," seeing no difference between his tears in the morning and his provocations in the evening.

It would probably be wrong to conclude from this that he meant to pick a fight with the Democrats or the new guy in Moscow. It's just

that he loves to make speeches but forgets that he is president of the United States. He thinks he can say anything he likes, even if he doesn't think at all about the consequences.

His personal performances have worked fairly well. Even when he loses a vote here and there on the budget, as he has been doing lately.



By Oswald in Excelsior (Mexico City).

Even with agreed cuts in the budget and with all Mr. Reagan's promises that his supply-siders would grow the budget into balance, the outlook today is that his contribution to history would be not a first or second "revolution," as he calls it, but a minor economic recession and the largest budget deficit in the history of the nation.

Congress is starting to take a new look at him, particularly the new leaders of the Republican-controlled Senate, led by Bob Dole. In last year's election Mr. Reagan was his buddy. This year they have a problem, and they are beginning to think Mr. Reagan is part of it.

Twenty-two Republican senators are up for re-election in 1986, and most of them face dicey races. They are not sure that they can win by supporting Mr. Reagan's budget, or his public attacks on the Democrats, the Russians and the farmers, or his cutbacks in Social Security benefits for the elderly.

For the time being the Republicans are riding high, against a leaderless Democratic Party, but they have a problem. If Mr. Reagan in the next year cannot come to terms with the Democrats on tax reform and make some progress with the Soviets on the control of nuclear weapons, chances are that the Democrats will control both the House and the Senate in the last two years of Mr. Reagan's second term.

This is why Senator Dole and other Republican leaders are wondering if it is in the president's own interest, or in the interest of the Republican Party or the nation, to attack the Democrats when the president needs their votes to put over important, necessary and long-delayed tax reform.

They are telling him — or at least telling Donald Regan in the White House, James Baker at the Treasury and George Shultz at State — to cool it at home and abroad and try to get tax reform and arms control before it's too late.

The New York Times.

## LETTERS TO THE EDITOR

### Designs on Austria

Regarding "With the Soviets, You Don't Negotiate in a Hurry" (May 20): Kenneth L. Adelman and Charles A. Sorrells describe obstacles put in the way of the Austrian peace treaty by the Soviet side as an example of the difficulties of negotiating with the Soviet Union. On Feb. 4, the West German news magazine *Der Spiegel* recalled much of the same detail, but also quoted American policy documents of the time indicating that the United States had little interest in withdrawing its occupation troops from Austria. Washington had the same scenario in mind as the one it was carrying out in Germany — that is, the establishment of two Austrias and a second capital in Salzburg. The rapidity with which the Soviets and Austrians finally settled in 1955 was accepted by many on the American military and diplomatic side with considerable chagrin.

It is also conveniently forgotten these days that in the early 1950s the Soviet Union expressed willingness to negotiate toward a reunified Germany, provided that it be truly neutral and demilitarized.

LEE WEINGARTEN, Geneva.

### Harvard and Reagan

Regarding "Harvard and Reagan" (Letters, May 21): I heartily concur with D. Marshall Billikopf's daringly expressed opinion that President Reagan is "more than eligible" for an honorary degree under Harvard's motto "Enter thy country and thy kind" — provided that Mr. Reagan agreed to join the freshman class.

GEORGE HELD, Vienna.

D. Marshall Billikopf describes Mr. Reagan as "second only to

### Ship Them Overseas?

Regarding "When Maturity Comes Late, Put Off College Study" (May 15): We agree with Kenneth L. Woodward and Arthur Kornhaber that the lack of maturity among American youth is a cause for concern. However, as former Peace Corps volunteers in Senegal and Mali we were charged by one of their proposed alternatives to college study for emotionally retarded adolescents: Ship them overseas with the Peace Corps. While the experience would no doubt help them grow up, must the burden of producing mature U.S. youth now fall on "underdeveloped" societies?

MARK WOODS HENDERSON, THOMAS HOWELL MIRTH, Ndjamena, Chad.

### Preferably in Wisconsin

Why do Americans think everything in Europe has "class," I have found Europe to be backward. (Telephones are at least 25 years behind the American phone system. And trying funds wire-transferred from your bank in the United States . . .) Most Americans envy those of us "lucky" enough to live in Europe. I envy those who stayed in Wisconsin.

FRANK RICHARDSON, Freiburg, West Germany.

**INTERNATIONAL HERALD TRIBUNE**  
JOHN HAY WHITNEY, Chairman 1984-1985

KATHARINE GRAHAM, WILLIAM S. PALEY, ARTHUR OCHS SULZBERGER  
Co-Chairmen

LEE W. HUEBNER, Publisher

Executive Editor: RENE BONDY  
Editor: ALAN LECOUR  
Deputy Editor: RICHARD H. MORGAN  
Deputy Editor: STEPHAN W. CONAWAY  
Deputy Editor: FRANCOIS DESMAISON  
Deputy Editor: ROLF D. KRANEPHIL

Director of Operations: STEPHAN W. CONAWAY  
Director of Circulation: FRANCOIS DESMAISON  
Director of Advertising Sales: ROLF D. KRANEPHIL

International Herald Tribune, 181 Avenue Charles-de-Gaulle, 92200 Neuilly-sur-Seine, France. Tel.: (1) 747-1265. Telex: 612718 (Herald). Cables Herald Paris. ISSN: 0294-8052.

Director of the publication: Walter H. Taylor  
Asia Headquarters: 24-24 Hensley Rd., Hong Kong. Tel.: 5-285818. Telex: 61170.  
Managing Dir. U.K.: Robin Macdonald, 63 Long Acre, London WC2E 9LT. Tel.: 336-4802. Telex: 262009.  
Gen. Mgr. W. Germany: W. Lauerbach, Friedrichstr. 15, 1000 Frankfurt/M. Tel.: (069) 726733. Telex: 416721.  
U.S. au capital de 1,200,000 F. RCS Nanterre B 73201126. Commission Paritaire No. 61337.  
S.A. subscription: 3322 yearly. Second-class postage paid at Long Island City, N.Y. 11101.  
© 1985, International Herald Tribune. All rights reserved.

# AVIATION

A SPECIAL REPORT — PART I

THURSDAY, MAY 30, 1985

Part II Will Appear  
In Tomorrow's Editions

Page 7

## Creative Financing In Buyers' Market

By Lew Townsend

WASHINGTON — Aircraft manufacturers, striving to pump life into a still-depressed world market, are turning more and more to "creative financing" and "untraditional arrangements" to keep production lines moving.

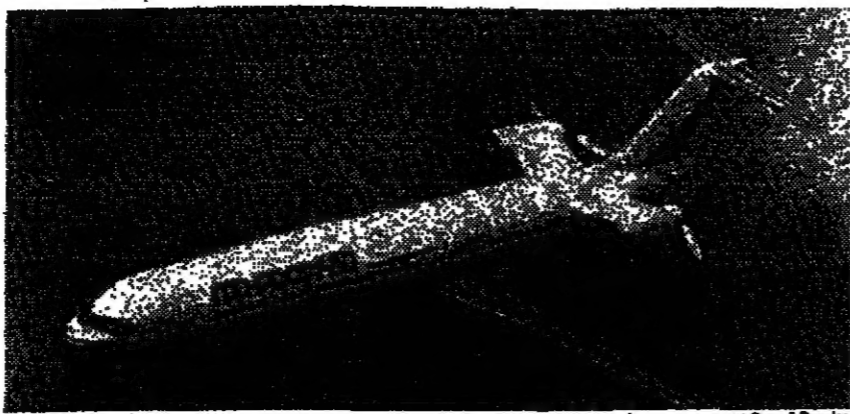
The benchmark for innovative methods employed by manufacturers to close a sale was the barter transaction last August between Boeing Co., of Seattle, and Saudi Arabia, where the latter traded about \$1 billion worth of crude oil to buy 10 Boeing 747-300s.

Barter deals could become more commonplace, some industry executives say, notably those associated with Mitsubishi, the Japanese conglomerate whose operations include a multibillion-dollar international trading company and the manufacturing of diamond corporate jets.

For the moment, though, bartering represents a relatively small weapon in the battle between manufacturers for aircraft sales.

More important and growing is the reliance upon direct financing assistance from the manufacturers and "sales-type" leases, where new models are leased with the lessee receiving an option to buy it later. In 1979, for instance, Boeing, the world's largest producer of jetliners, had \$208 million tied up in such investments. By the end of last

(Continued on Page 9)



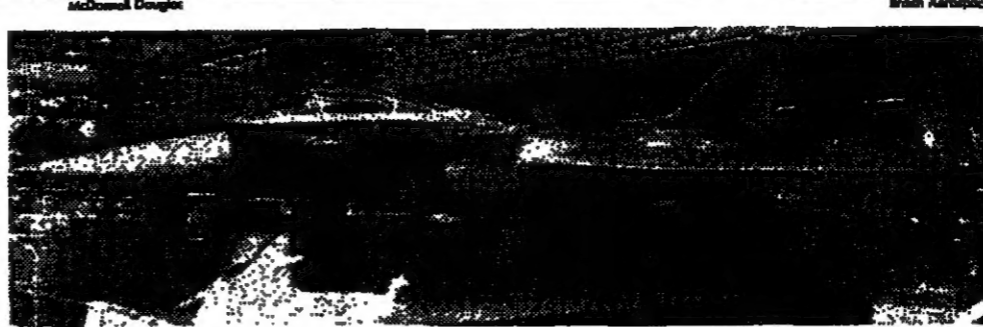
McDonnell Douglas



British Aerospace

## Aviation's New Generation

Above left, the McDonnell Douglas MD-80-Propan project. The British-West German-Italian Tornado fighter, above right, a program that began in 1969. At right, the Dassault Rafale, which is the French demonstrator plane for the European Fighter Aircraft project.



Dassault-Breguet

## Third World Holds Its Own With the West's Majors

By Robert Cockburn

LONDON — It is a paradox that some of the poorest nations have created some of the most extravagant aircraft industries.

The financial strains endured by Western manufacturers can only hint at the problems faced by developing countries in the limited aircraft market. Yet, in the 1970s and 1980s there has been a growth in the number of home industries in Asia and Latin America.

Many of these operations were set up for reasons of national pride or a more practical desire to be-

come self-reliant in arms production, building equipment under license. Entering the space race, possessing a nuclear capability or building one's own air force appeared far more dynamic than providing drinking water, drains and a decent diet. Money did not come into it; status did.

That was until Brazil came into the market (with the world's biggest overcapacity) and not only began to make the industry pay but also began to beat the Western manufacturers at their own game. This year Brazil's Embraer Tucano chose Brazil's Embraer Tucano as its new-generation advanced trainer after an acrimonious battle against an international field including British Aerospace. It was an unprecedented coup for a Third World state to win such a large order, £125 million, from such a prestigious and tough customer.

For its British partner in the deal, Embraer collaborated with Short Brothers, the Northern Irish aircraft manufacturer. Short Brothers not only had the technology but also the right political clout with the British government.

It is said that the prospect of bringing badly needed wealth and jobs to Northern Ireland played an important part in the government's final decision. As the decision was made, British Aerospace pointed out that its own offer was more than £5 million cheaper.

For the Brazilians, the psychological barriers of being a Third World producer are down. They possess the fifth-largest defense industry in the world and they lead some 20 developing countries with aircraft industries.

In 16 years, Brazil has developed a highly sophisticated aviation industry. Besides the Tucano trainer, which has been sold in its original form in South America and the Middle East, the company has succeeded in the civil sector. The twin-prop Bandeirante is nearing sales

of 500 aircraft in 26 countries where it has been bought by 80 operators. The new 30-seat Embraer Brasilia transport plane is the largest project and has so far won orders from the Brazilian and Chilean air forces. Brazil also has a helicopter assembling company and two small aircraft producers.

Argentina has four aircraft companies, the largest of which is FMA, the military manufacturer, established in 1927. Since the late 1960s, it has produced the Tucano counterinsurgency aircraft for the Argentine Air Force while a new advanced jet trainer is in the proto-

type stage and is awaiting development. The Aero Boero and Chincal companies make light aircraft, and RACA produces Hughes helicopters under license.

Chile began assembling U.S. Piper PA28 light aircraft in 1980 with the formation of Enaer under the auspices of the air force. In the same year Piper and Enaer began development of the T-35 military trainer, while a deal was signed with CASA of Spain to build the Aviojet advanced trainer.

Egypt is the sole member of the Arab Organization for Industrialization, set up with Saudi Arabia,

Qatar and the United Arab Emirates in 1975, to provide a military industry. Its partners pulled out after the Camp David accord with Israel. But the Egyptian factories today produce the French Aerospace military Gazelle helicopter, Brazil's Embraer Tucano and the French-West German Alpha Jet attack aircraft. The organization's factories also make rockets and missiles.

India takes a nonaligned stance, producing high-technology military aircraft from the Soviet Union and Europe at its huge Hindustan (Continued on Next Page)

## 'Big-Tech' Tension: Will Allied Ventures Survive the Politics?

By Axel Krause

PARIS — McDonnell Douglas Corp. of the United States last week announced that it planned to expand its long-established ties with state-controlled Aeritalia of Italy to jointly develop propan technology, which could lead to production of a new passenger airplane.

It was the latest example of how U.S. aerospace companies are actively pursuing new cooperative ventures with their counterparts in Western Europe.

But the announcement, and others planned for the Paris Air Show beginning on Thursday, contrasted sharply with the political tensions between allied governments that have created uncertainties regarding development of far more ambitious projects.

Examples include: French industry opposition to the planned West European combat fighter, European involvement in the U.S. manned space station and in President Ronald Reagan's Strategic Defense Initiative.

Although the question of how to finance such multibillion-dollar projects has been raised by some European leaders, most of their preoccupations stem from deeply rooted fears that their industries would be denied full access to high technology being developed by the United States.

President Francois Mitterrand of France is fond of recounting how, at the recent seven-nation economic summit in Bonn, he heard Mr. Reagan use the word

"subcontractors" to describe European involvement in the Strategic Defense Initiative, which the French leader said "confirmed my intuitions." Mr. Mitterrand told Mr. Reagan at the summit meeting that France would not participate in the initiative in its current form, and he has repeated the statement on several subsequent occasions to reporters.

Speaking more bluntly, Hans-Dietrich Genscher, foreign minister of West Germany, told reporters in Paris last Wednesday that the U.S. effort to enlist European support for the program amounted to "Americans going through Europe with their checkbooks."

He added: "We cannot risk losing our best brains."

Meanwhile, U.S., British, French and other West German officials, in separate statements last week, emphasized that the U.S. program was compatible with Eureka, a French-led effort to develop high technology in such sectors as optics, electronics, new metals, laser and particle-beam technology and fifth-generation computers. But most officials on both sides of the Atlantic still believe that Eureka is Europe's response to Strategic Defense Initiative research, even though no details have yet been disclosed by France, including the costs.

Both the U.S. program and Eureka were important subjects of conversation between Mr. Mitterrand and West German Chancellor Helmut Kohl during a meeting Tues-

(Continued on Page 10)

## Spaceplane: Picking Up Where the Shuttle Stops

By Theresa Foley

WASHINGTON — By the end of the century, U.S. military pilots may be able to hop into spaceplanes stationed at military bases around the globe and fly into orbit with short notice. With these revolutionary flying machines, the Pentagon would be able to place small surveillance and communications satellites into low Earth orbit or rendezvous with satellites already in space.

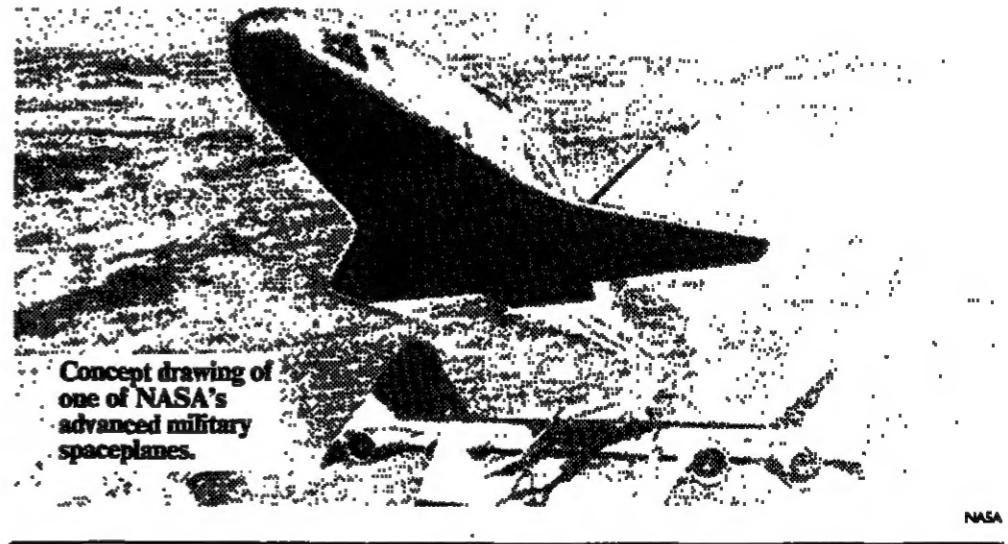
Although only in the conceptual stage now, steps are being taken to ready the technology necessary to build transatmospheric vehicles, space cruisers and orbital aircraft in the coming decades. These new aerospace planes would add considerably to U.S. Air Force space capabilities.

What missions could these new vehicles accomplish? The Air Force is trying to answer that question now with mission studies and user surveys, but at least one possible survey is to achieve the capability

to destroy enemy satellites. Air Force Systems Commander Gen. Robert T. Marsh provided a clue to why advanced spaceplanes are desired in an article he wrote for Air Force Magazine last year. "The aerospace vehicle could take off, climb out of the atmosphere and achieve a partial orbit on its way to the target; possibly even attack an enemy's low-orbit space-based assets while in orbit; re-enter the atmosphere and attack a ground-based target, and leave the atmosphere again and orbit to return to its home base," he said.

The Air Force now uses the shuttle and traditional "expendable" (or throwaway) launchers for access to space. But the shuttle is not ideal for many military missions. It is too big, not very maneuverable and it is tied to a very limited number of launch and landing sites. For many military tasks, using the shuttle would be like using a Mack truck when a two-seater sports car

(Continued on Page 12)



Concept drawing of one of NASA's advanced military spaceplanes.

NASA

## TOMORROW

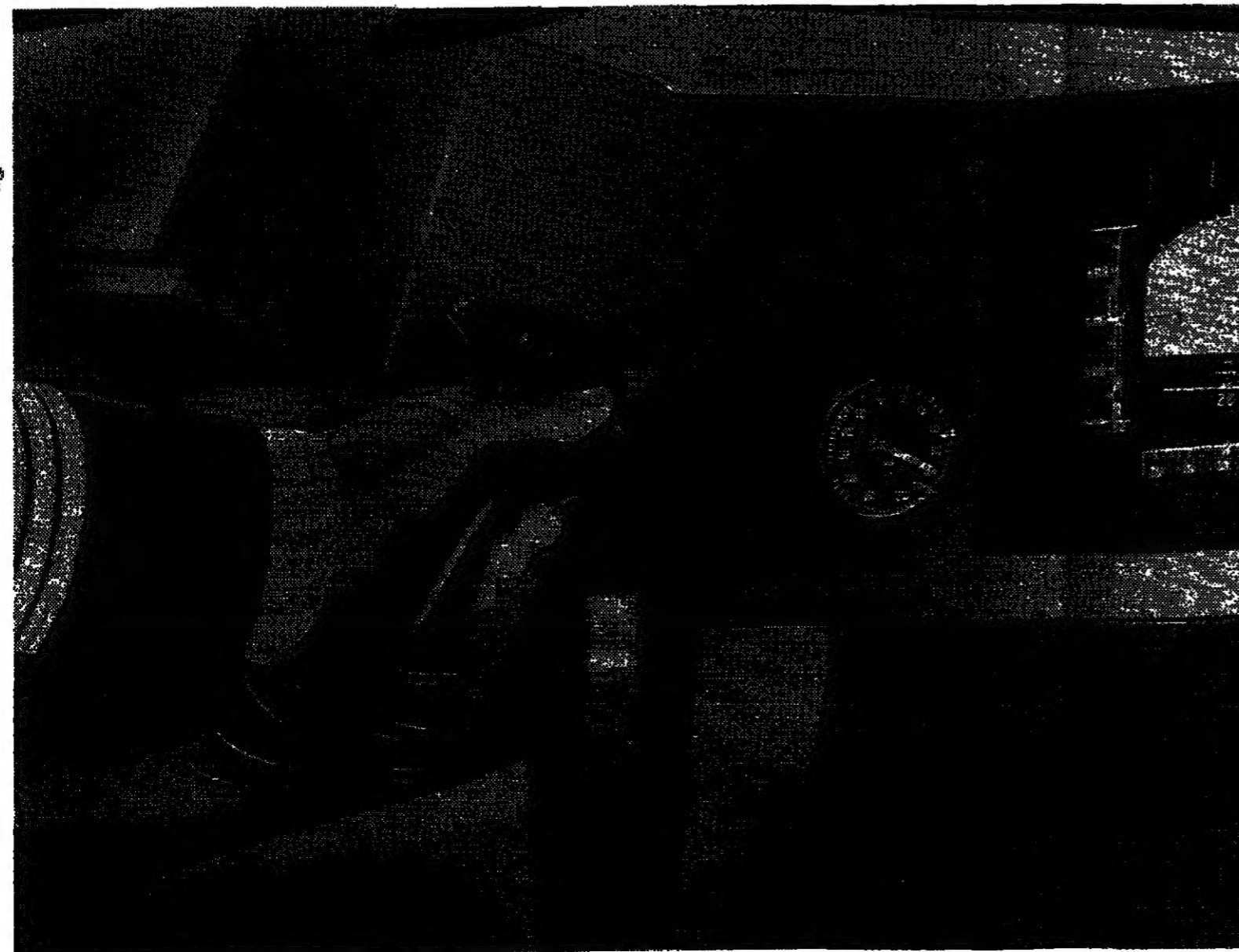
■ Profit-taking: Four U.S. carriers posted two-thirds of total industry profits in 1984. Has deregulation helped the industry prosper?

■ Class acts: Does class make all the difference? A look at leg room, food and drink, and other perks in first, business and tourist classes.

■ Pledged in: Two airlines dominate electronic marketing for U.S. reservations and sales. But are the systems biased?

■ Top flight: Which airlines — and which airports — do frequent travelers like most. A survey of consumer preferences.

## How to fly a big airplane with the tips of your fingers?



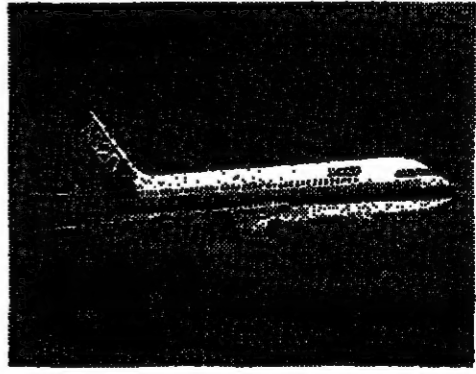
Fifteen years ago, we designed and built Concorde, using technologies never previously seen in a commercial aircraft.

Today, the Airbus remains at the cutting edge of technology. The proof: shortly we'll be introducing the Airbus A320. The first of a new generation of safer, more efficient aircraft.

In the new Airbus A320, "flying by wire" will replace the conventional aircraft controls, making life much easier for the pilot. In terms of comfort, safety, and flight monitoring.

By means of a mini-stick, the pilot can transmit extremely precise commands and check they've been carried out on a visual display — part of an entirely new concept in cockpit instrument panels designed to make all flight data easily and immediately available to the pilot.

At Aerospatiale, high technology is our stock-in-trade. That's how we meet both the interests of the passengers and the economic requirements of the airlines. And that's what makes Aerospatiale special.



aerospatiale

that's special. that's aerospatiale.

## A SPECIAL REPORT ON AVIATION

## The Chinese Market: Vast, Untapped and Difficult

LONDON — Nothing will do more to concentrate the minds of rival aircraft manufacturers at the Paris Air Show at Le Bourget than the approach of a delegation from China.

A combination of economic and political factors has turned the People's Republic into a vast — and for the most part, untapped — aircraft market, the likes of which will not be seen again. For the hard-pressed European and American industries, the potential for creating a modern airline system on such a large scale is awesome.

Yet, while the Chinese have allowed a number of them to make modest inroads into its least-developed transport sector, no single manufacturer has emerged as a dominant force. It is just not the way things are done in Beijing.

For the Chinese are being most

careful about how and with whom they spend their money. And none of the companies will claim to know what long-term intentions lie behind the scrutinizing minds of the three major delegations from the Ministry of Aviation, China's own considerable manufacturing industry and the national airline, when they window shop in Paris.

In the short term, China's potential is seen not so much in moving its own masses as in transporting the rising numbers of tourists seeking out a nation that closed its doors in the Mao era. The same political relaxation that makes tourism possible has created economic reforms and far greater opportunities for doing business with the West after years of Soviet influence. But it is pointed out by regular visitors that Western products

will not become an automatic alternative for the Chinese. The recent warming of relations between Beijing and Moscow has also brought the Soviet manufacturers back into the picture.

Contemplating the infinite varieties of hardware, the Chinese are picking up small portions here and there to get a taste from several sources on both sides of the Atlantic without making a large single order.

So far Boeing has been successful in selling 10 B-737s, of which five have been delivered. British Aerospace says that the order was made before the Chinese had the chance to evaluate its brand new BAe 146 commuter jet last summer. It is designed specifically for rugged locations and efficiency. So the Chinese agreed to buy 10 of the

146s. But with British aiders operating in China since the 1960s, British Aerospace feels that its new product mixed with its established roots will lead them to more substantial orders.

Equally hopeful is Britain's Short Brothers, which earlier this year sold eight of its regional S360 airliners to China. It is reported that a deal to purchase Soviet propellers has been agreed. And in Sweden there is confident talk of a deal this year for the purchase of Saab-Fairchild SF340s with delivery of as many as 50 aircraft starting later this year. At the big end of the market the European Airbus Industrie has secured an order for three of its wide-bodied A-310s.

But perhaps the biggest breakthrough has come from McDonnell Douglas for landing a contract to supply 26 MD80s worth up to \$1 billion. The twin-jet airliners will be built under license in Shanghai, providing China with its first home-assembled modern airliner. The Americans will train part of the factories' 10,000 workers (an important factor for the Chinese) and will establish a joint task force to study further projects.

Taking an active role in production — importing new technology and manufacturing techniques — is highly significant for a country with a large but outdated aviation industry. China has more than 10 aircraft factories dating back to the days of Japanese occupation in the 1930s. With Soviet assistance, these were re-established under Communist rule in 1949.

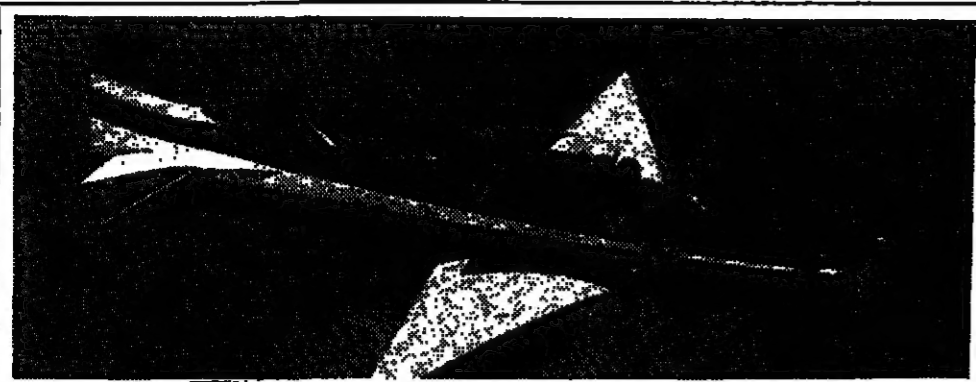
Their products, mainly military, are copies of Soviet types, again

built under license. The political break with the Soviet Union posed the challenge of developing its aircraft unaided. This was achieved rather slowly, providing the legacy today of an air force that looks at least 20 years out of date. Similar efforts to produce a domestic airliner brought forth the prototype Shanghai Y-10, which looks much

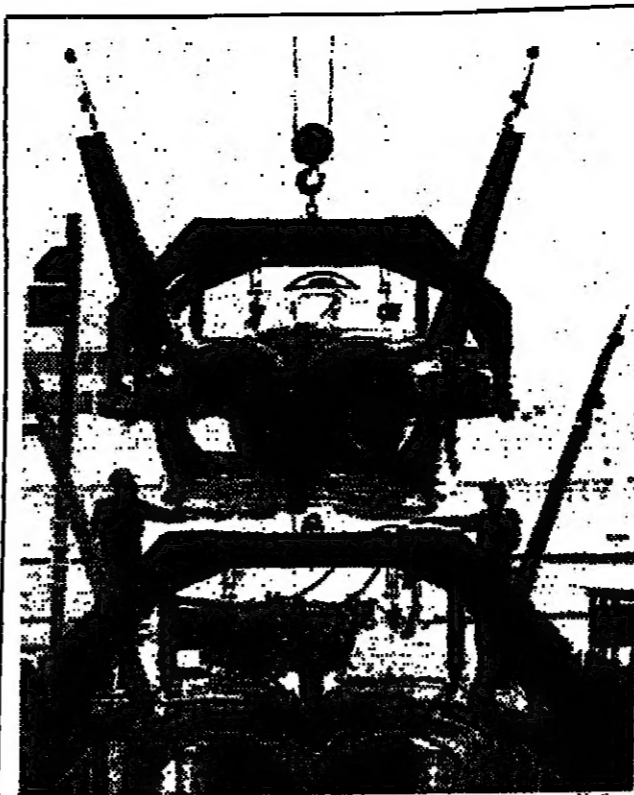
like the Boeing 707 of 1950's vintage.

But will the day come when Western frontline fighters and bombers will be rolling off the Chinese production lines? No one rules out any possibility in the optimism that companies like to believe exists in China.

— ROBERT COCKBURN



The Tucano T-27 attack trainer from Embraer of Brazil, which is to be built in Egypt under license.



Completed F/A-18 shipsets are moved off the assembly line at Northrop in El Segundo, Calif. The plane has been chosen by the U.S. Navy and Marine Corps and the Canadian, Australian and Spanish air forces.

## In Soviet Aircraft, It's What Is Not Seen That Makes the Difference

By Christy Campbell

LONDON — "I have seen the future and it's the nineteen-fifties," said the man coming home off the Aeroflot flight. That used to be the joke about Soviet aerospace technology — that it was earnest but cumbersome, impressive on the outside but antiquated under the skin.

How true is that today, when the Paris Air Show will be dominated by the massive bulk of the world's largest aircraft, the Antonov An-124 Condor, dramatically showing off to the world just what Soviet engineering and Soviet aerospace technology are capable of?

Paris is the Soviet aviation industry's window on the West. The Russians do not set up shop at any of the other world aviation jamborees and withdrew from the Paris show two years ago after a diplomatic row. This year they will be beating the drum for Soviet products (civil aircraft only, they bring no military aircraft for open display to the West), while they try to find out as much as possible about what the West is offering. But what does the West know of their aircraft?

On the wall of a design office in Moscow there is a simple exhortation: "Make it simple, make it producible, make it work." That sums up a 70-year tradition of Soviet aviation in war and peace, where quantity means more than quality and durability means more than sophistication. This has meant in turn that a number of developing nations, such as India, have found it easier to license-build from Soviet prototypes than from Western equivalents.

Meanwhile, the West has taken comfort in its perceived technological advantage. That confidence is eroding fast.

The noted design chiefs such as Andrei Tupolev, Oleg Antonov and Alexander Yakovlev pursued Soviet strictures with almost complete continuity of purpose from the 1930s to the 1970s, and where they abandoned them, as in the case of the ill-fated Tu-144 supersonic transport, the result was disaster. Today, the old giants are gone but

their successors still work in a highly air-minded environment, with aircraft design for Siberia what the railroads did for 19th-century America. But the bad news for the Soviet designer, then and now, is that the state is his only customer and he is working first and foremost for the military establishment.

Military aircraft, therefore, will be the specter of the Paris show. The mighty An-124 is the first big transport prototype for a long time (although it also has military significance), but through the last 10 years a mighty investment has been made in military aerospace technology.

According to the Pentagon, "The major research and design facilities engaged in the development of Soviet military aircraft, missile and space systems have grown by at least 30 percent in the last 10 years ... producing 20 new types of aircraft since 1970 and 35 new types of missiles. The Tupolev design bureau, responsible for the development of such aircraft as the [NATO-designated] Blackjack strategic bomber has doubled in size during the past decade."

While Soviet research and development may take up to four times as long as Western equivalents, the Soviets get there in the end and deploy, in large quantities, aircraft that are the combat equivalents of anything in the U.S. arsenal — aircraft like the lightweight, dog-fighting MiG-29 Fulcrum, which is very close to the F-18, and the longer-range Su-27 Flanker, plus some formidable helicopters.

Already, the U.S. Air Force is postulating a "MiG 2000," which would feature an airframe of composite materials and an advanced computerized test-flight control system. Computing is where the West holds a key lead in military aerospace technology and why high-tech transfer is such a sensitive issue.

Paris will fill the shop window with high-tech displays, which the Russians will be scrutinizing from every angle — but, no doubt, the nine days of the Condor in Paris will have a lot to teach the West.



The AMX subsonic attack jet, a joint venture between Embraer, Aeromacchi and Aeritalia.

## Third World Holds Its Own With the Majors

(Continued From Previous Page)

Aeronautics Co. The industry goes back to 1940 and today employs 40,000 people making planes and equipment for the air force. The Bangalore Complex turns out under license SEPECAT Jaguar combat aircraft and the Adour engine. Airframes and engines for the Soviet MiG-21 are made at Nasik and Koraput and construction of the MiG-27M was due to go ahead at the end of 1984. Avionics and accessories are made at the Lucknow division. Home designs include the Kiran jet trainer and HPT-32 prop trainer.

Indonesia is gaining recognition for its Nurtanio aircraft company, which was formed in 1976 and has since won export orders after supplying several home customers. The Aviocon twin-turboprop passenger and cargo plane is still built under license from CASA. Now Nurtanio and the Spanish company are developing a new 39-seat plane. The company also manufactures under license French Super Puma helicopters and the American Bell 412 helicopter.

Mexico, in a partnership with America's Rockwell International, has turned out Quail Commander and the agricultural Sparrow Commander since the early 1970s.

Pakistan made the Mushshak, a licensed version of the Saab Safari single-engine light aircraft, for the air force. Two other factories of the Pakistan Aeronautical Complex rebuild local versions of the MiG-19 and the Mirage III.

Peru intends to establish an aircraft industry with the help of the Italian company Aeromacchi Macchi. Known as IndAer-Peru, its first task will be assembly of the

Italian MB 339A trainer followed by a deal to manufacture this and another type under full license.

The Philippines Aerospace Development Corp. has assembled more than 40 West German BO-105 helicopters and 60 British BN-2B Islander light transport aircraft. The company has a maintenance and overhaul operation.

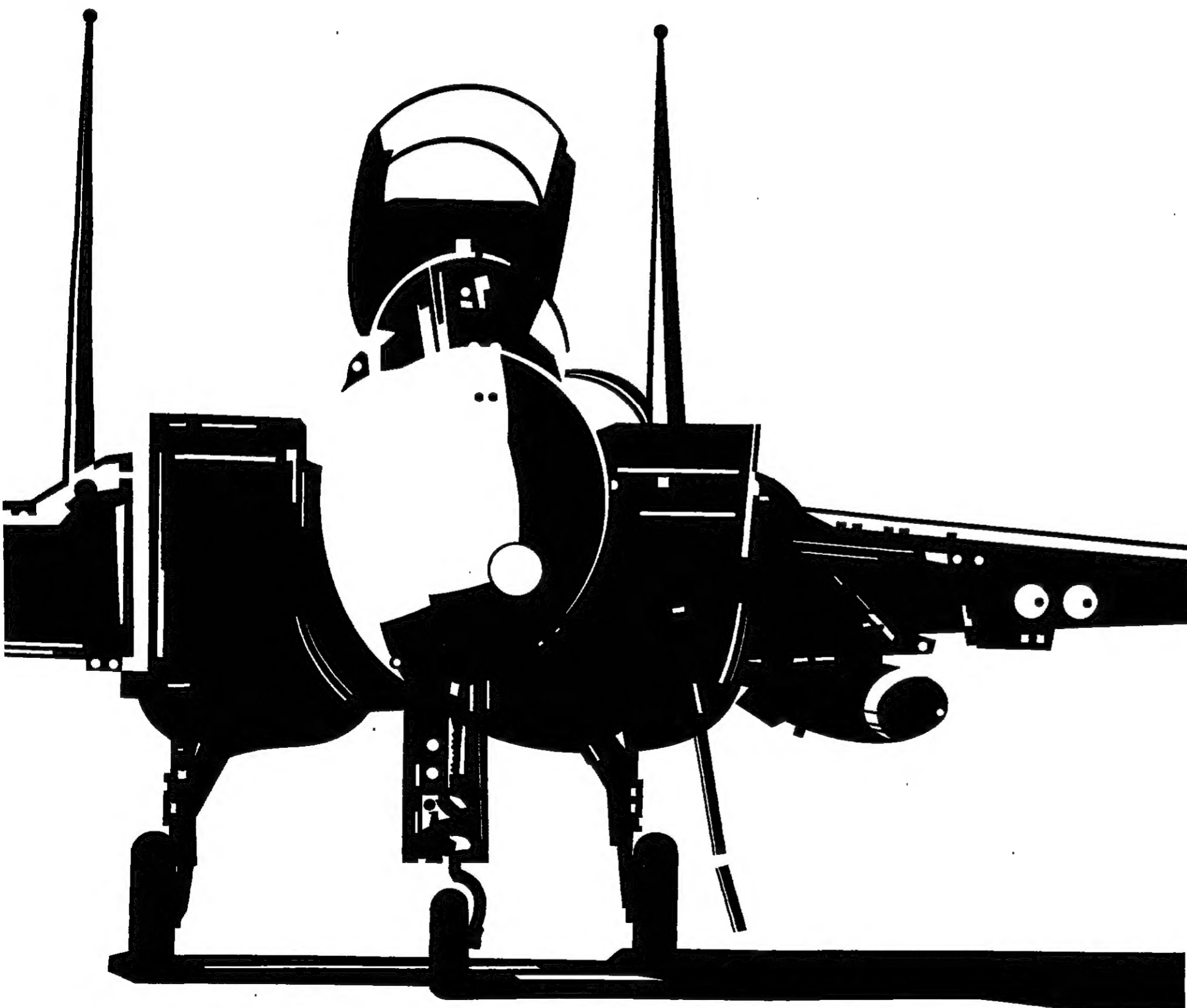
Singapore Aircraft Industries was formed in 1982 for the maintenance of aircraft from the local air force and the U.S. Navy and Marine Corps. Plans are under way to assemble the Marchette S-211 jet trainer from kits and Super Puma helicopters.

Taiwan began constructing aircraft in the late 1960s and has produced large numbers of American Bell helicopters and Northrop tactical fighters for the Chinese Nationalist Air Force. By the 1970s, the Aero Industry Development Center was designing and developing its own aircraft — the T-CH-1 basic trainer was its first product. Money problems halted the AIDC's XC2 twin-turboprop transport after the first prototype flew in 1979. New efforts are being concentrated on a new jet trainer for the air force.

Thailand is unusual in that it designs and builds all its own aircraft from scratch. All have been air force trainers and one utility aircraft, the RTAF-2. The latest project is the RTAF-5, a turboprop trainer, which was due to make its first flight last year.

Turkey is to start production of American F-16 fighters following completion of a new aircraft complex at Murted, near Ankara, next year. A joint-venture company set up between the Turkish company TUSAS and General Dynamics will make 160 aircraft.

## OPPORTUNITY: Not even the sky's the limit for aerospace technology.



**IC INDUSTRIES IS THERE:** Working together, our Abex and Presumo companies produce sophisticated flight control systems and landing gear for most of the free world's aircraft. It's an IC Industries kind of market.

For more information on this and other IC Industries opportunities, please write: Alex Lehmann, IC Industries, Suite 4403, 200 Park Ave., New York, New York 10166.

©1985 IC Industries, Inc. IC Industries is a registered trademark of IC Industries, Inc.

**IC Industries**

## A SPECIAL REPORT ON AVIATION

## Worldwide Operating Profits Boost Orders for Aircraft

By Michael Virtanen

WASHINGTON — Worldwide deliveries of new commercial jetliners fell in 1984, but aircraft orders increased substantially due to improved airline operating profits. Most of the renewed interest was in smaller jets with passenger seating capacities of about 100 to 150. The demand for new wide-body jets lagged.

Orders dropped off in the early 1980s due to the recession and airline losses. Since the typical lag time between orders and deliveries, meaning actual sales, is about two years, the impact was still felt in 1984.

The makers of large commercial passenger jets — Boeing, Airbus, McDonnell Douglas, Fokker and British Aerospace — reported combined deliveries in 1984 of 259 such planes, a drop of 18 percent in sales from the previous year.

According to one market analyst, that meant the manufacturers' revenues shrank by more than \$1.5 billion to about \$9 billion last year, with Boeing taking in more than half of the money, Airbus about a quarter, McDonnell Douglas 12 percent, and the others about 6 percent.

However, the five also reported a 42-percent jump in firm orders in 1984 for a total of 338 commercial jets. That should translate into improved sales starting this year.

The main catalyst for the turnaround was renewed airline operating profits last year, according to most observers. The U.S. scheduled airlines recorded \$2.3 billion of operating profits, while international airlines collected net profits of some \$500 million.

McDonnell Douglas enjoyed the

largest increase in orders of the five manufacturers last year with firm orders for 110 jetliners, up from 44.

"It was a good year in 1984," said a spokeswoman for Douglas Aircraft in Long Beach, California, a division of McDonnell Douglas. "We expect a good year in 1985."

The bulk of McDonnell Douglas' good fortune came from American Airlines, which ordered 67 MD-80s early in the year, plus options on 100 more of the twin-

year, a marked decline from 196 the year before.

However, Boeing reported firm new orders for 169 passenger planes, up from 136. Despite 12 cancellations of previous orders, the company still reported a net gain in orders, and said in its annual report that it will deliver 201 commercial jetliners in 1985, as well as a few military sales.

"When airlines make money they buy planes," a Boeing spokes-

**The U.S. scheduled airlines recorded \$2.3 billion of operating profits, while international airlines collected net profits of some \$500 million.**

engine planes that normally seat 140 to 155 passengers.

The company expects to deliver 70 aircraft this year, up from 46 last year and 54 deliveries in 1983. The new deliveries will include the start of American's order. If the airline picks up its options, McDonnell Douglas will be producing planes through 1991, the spokeswoman said.

Only seven of McDonnell Douglas' orders last year were for its widebody DC-10, normally a 280-passenger jet. That also represents an increase from a single 1983 order and two 1984 deliveries, but six of the new orders came from Federal Express, a U.S. package delivery service, for the tri-engine planes configured for cargo.

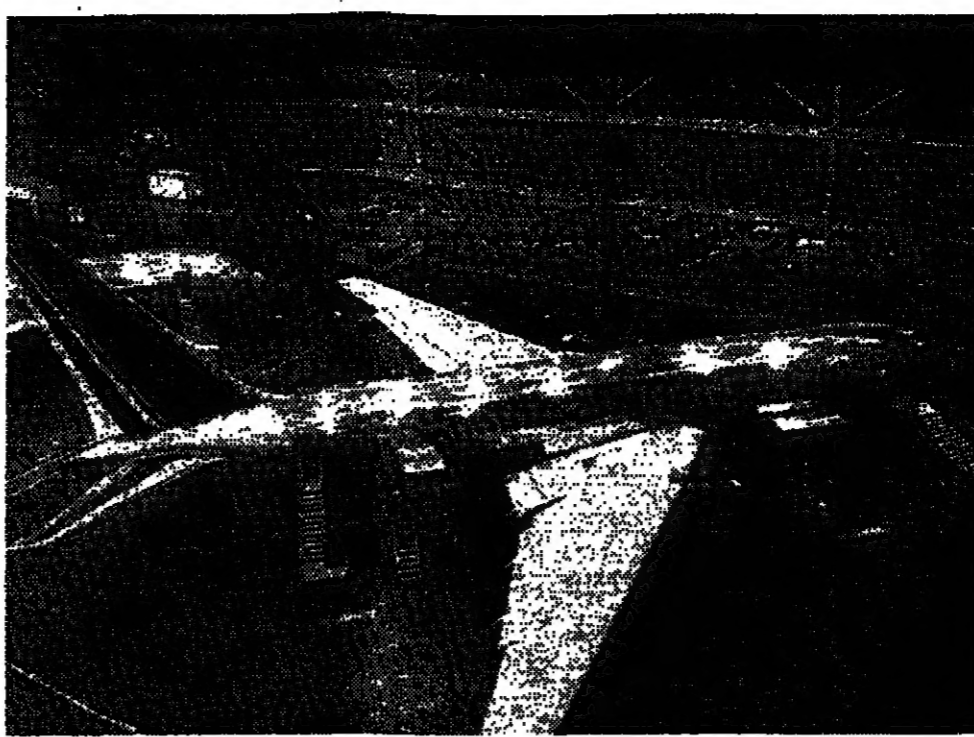
Boeing Company of Seattle, Washington, still the biggest manufacturer of large passenger jets, delivered 138 commercial aircraft last

man said, adding that the company projects new 1985 orders to keep pace. He also cited reasonably low interest rates as one positive factor, but said the still strong U.S. dollar is an impediment to sales overseas.

Like McDonnell Douglas, the large majority of Boeing's new orders were for smaller planes, 135 of its twin-engine 737s, up from 69 orders last year. Most were for the new stretched version of the aircraft, the 737-300s that were sold for the first time in 1984 and seat approximately 130 passengers.

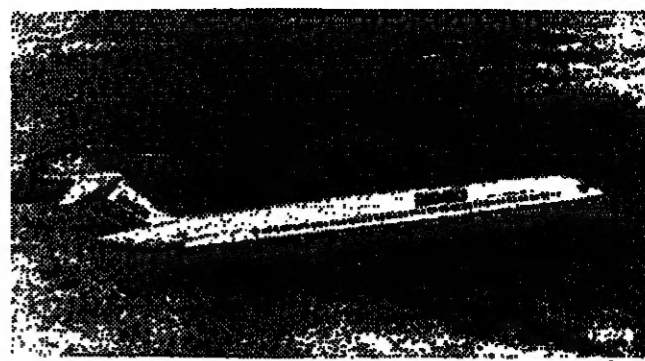
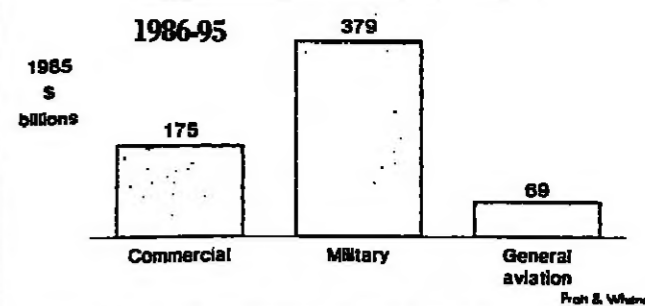
Boeing received orders for 110 of the 737-300s, including 24 from Texas Air Corp., the parent of Continental Airlines and New York Air.

Concerning widebody sales, Boeing delivered 16 of its 747s last year, down from 23. It received orders for 22 of the 300-plus pas-



Boeing 767-ER under construction, above; at right, a McDonnell Douglas MD-80.

### World Aircraft Market



senger, four-engine jets, down slightly from 24.

The largest order was from Saudi Arabian Airlines for 10 of the 747-300s with the extended upper deck in a potential \$1-billion deal.

Orders for Boeing's twin-aisle 767s, two-engine jets that seat about 220 passengers in a mixed-class configuration, dropped from 16 to 10, while deliveries fell from 55 in 1983 to 29 last year.

Boeing's 747s, the single-aisle jets that seat about 185 passengers, also declined in deliveries from 25 to 18, and dropped sharply in orders from 26 to 2.

Airbus Industrie, the European consortium and Boeing's chief rival in the widebody market, had 35 firm orders in 1984 with increases in demand for all three of its air-

craft models, including the new, 150-seat A320, a narrowbody plane scheduled for deliveries starting in 1988.

Airbus' orders included 11 for its widebody A300s, which normally carry 250 passengers; 10 orders for A310s, also twin-engine and seating about 220 passengers; and 14 orders for A320s. Comparable 1983 orders totaled 18, including 12 for the narrowbody jet and six for the twin-aisle A310.

In other words, Airbus's small plane also accounted for the largest portion of its orders, similar to McDonnell Douglas and Boeing.

"We're beginning to see a very exciting turnaround in the profitability of air carriers that are beginning to make capital decisions," an

Airbus spokeswoman said. In addition to the 35 firm orders, she said there were 23 accompanying commitments for another 100 aircraft.

Most of those commitments came from Pan American World Airways, which signed a letter of intent with the consortium to acquire 28 planes with options for 47 and leases for 16. They include a mix of A320s and A310-300s.

Airbus last year developed a total of 48 aircraft, including 29 of the A310s to 12 airlines and 19 of the A300s. The consortium sold some 38 planes the year before, so it showed a net gain in 1984, all from A310 sales.

Lockheed Corp., U.S. maker of widebody L-1011 TriStar, halted

production of the tri-engine jet but delivered four planes in 1984, down from six in 1983, the analyst reported.

Among the smaller jets, Fokker Aircraft of the Netherlands last year delivered 16 of its twin-engine F-28s, a slight decline from 19 sales of the 65-to-85-seat aircraft in 1983. The firm reported orders for seven of the planes last year, matching 1983.

However, Fokker late last year received the launch order from Swissair for its new Fokker 100, the twin-engine, 100-seat plane due out in 1986. Swissair ordered eight planes with options for six more, a Fokker official said.

British Aerospace, which in 1983 began selling its four-engine BAe

146 models, delivered 10 that year and 11 last year.

Orders for the BAe 146-100 and the 146-200, which seat 86 and 100 passengers, respectively, totaled nine last year, down from 32.

The main reason for the sharp statistical drop was a large order in late 1983 from Pacific Southwest Airlines, a U.S. regional carrier. PSA ordered 20 BAe 146-200s with options for 25 more, a British Aerospace spokesman said.

The widespread interest in new smaller jets is partly a result of continuing carrier emphasis on hub and feeder operations, a U.S. airline representative said. He said the soft demand for new widebodies may be the result of a strong demand for used big jets and the high price of new ones.

## Creative Financing Is Child Of a Global Buyers' Market

(Continued From Page 7)

year, that figure had grown to \$541 million.

Less known are some of the innovative arrangements engineered by the airlines, such as one that allows them to get new models they need from the manufacturers and, at the same time, provides them with a major cash windfall.

In these cases, an airline orders, say, a Boeing 747-200 that cost \$80 million when ordered. Since it generally takes a minimum of 18 months to two years to get delivery, the price of the model when delivered might be \$84 million. Instead of merely paying off what is owed on the 747 and putting it in their fleet as a company-owned model, some airlines today sell the model to a third party at the then-going price of \$84 million and lease it back.

But for buyers in general, the widest variety of creative financing and promotional offerings is in the general aviation area. The light-plane industry is in its worst slump since the early 1950s, based on unit sales, and buyers can almost dictate terms.

Inducements include hefty discounts ("List prices are virtually meaningless," one industry researcher said); greater dollar allowances for trade-ins; cut-rate financing coupled with long terms, 10 to 15 years on some models, as op-

posed to a traditional five or seven years; cash rebates; extra options, and free training for pilots and mechanics.

More original is the growing willingness by some manufacturers to lease their models with options to buy. Some also push straight leasing arrangements, with the manufacturer guaranteeing to take the model back at the end of the lease period at a fixed price. The length and terms of such agreements are as varied as the more than 100 different models offered by these manufacturers.

Quantity purchases, the dream of every manufacturer, are hotly contested and marked by untraditional sweeteners for the prospective buyer. For instance, in a battle to sell a fleet of 10 aircraft to United Parcel Service, Fairchild Aircraft Corp. also agreed to establish and man a new subsidiary to operate the aircraft for UPS. More models also can now be bought direct from the factory, bypassing dealer markups, and some manufacturers even guarantee that the operating costs of some of their models will not exceed a certain level. If they do, the manufacturer pays the difference.

In one form or another, most of the same inducements and special deals are made available to the military, with the manufacturers touting "off-the-shelf" versions of their models for training, transportation,

surveillance and rescue work. U.S. military procurements of general aviation aircraft have helped keep some companies on both sides of the Atlantic alive in the last couple of years. The U.S. Air Force currently is the biggest military customer of off-the-shelf, or slightly modified, general aviation aircraft.

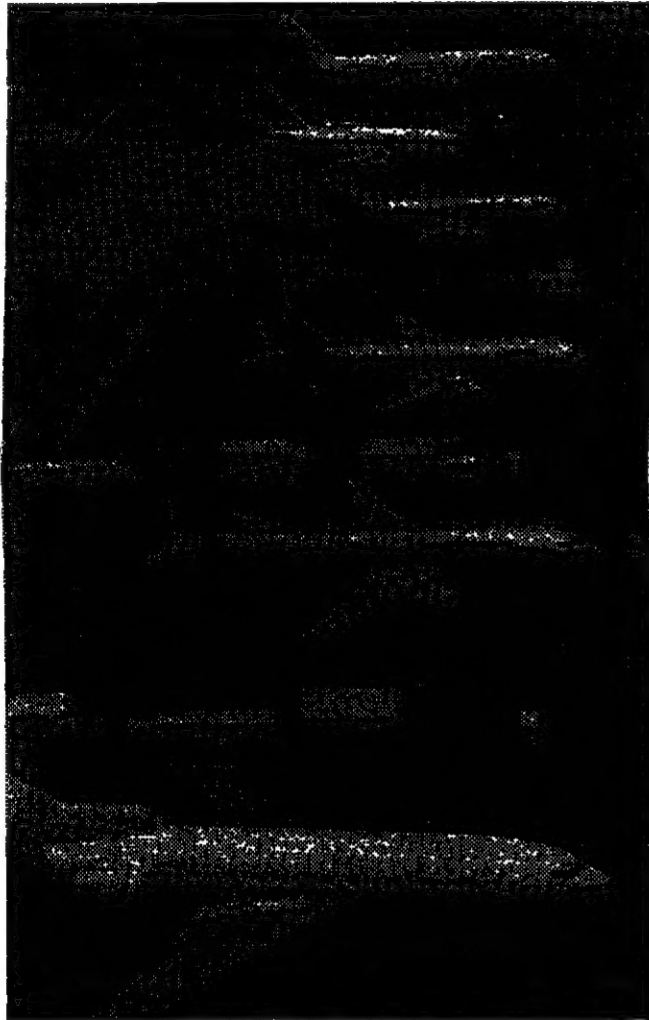
Like their civilian counterparts, military procuring agencies are not passing up creative financing to get what they need, including the leasing of aircraft, an almost unheard-of practice in the past.

In 1983, the Air Force signed long-term lease agreements with Beech Aircraft Corp. and Gates Learjet Corp. for a combined total of 120 aircraft. As part of the package, the models are maintained by subsidiaries of each manufacturer. The U.S. military also is acquiring 11 Gulfstream corporate jets from Gulfstream Aerospace Corp. plus 15 specially modified Citation jets from Cessna Aircraft Co.

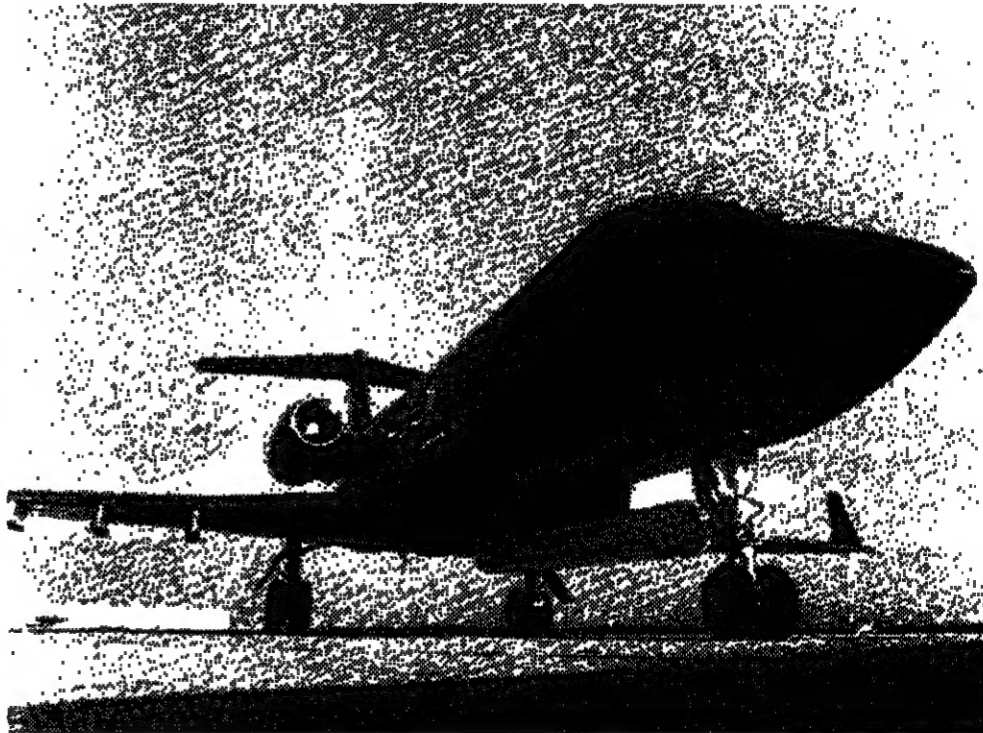
For European-based operations, the U.S. Military Airlift Command has ordered 18 military versions of the Short 330 that is built in Northern Ireland by Short Brothers. It also has options for 48 more.

Hopes by the light-plane manufacturers for new military work include a joint effort to modify the European-built Fokker F-27 to fight forest fires. Teamed in this

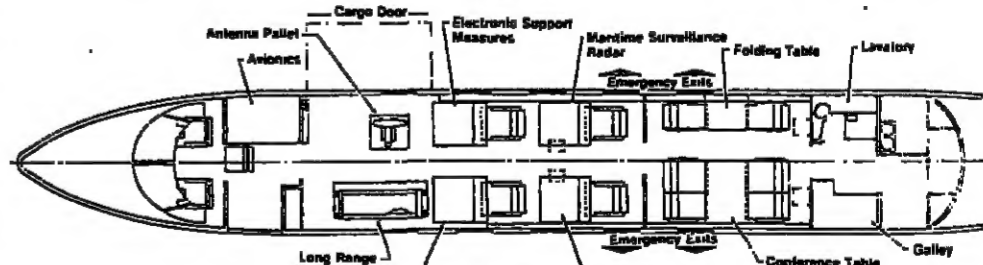
(Continued On Page 12)



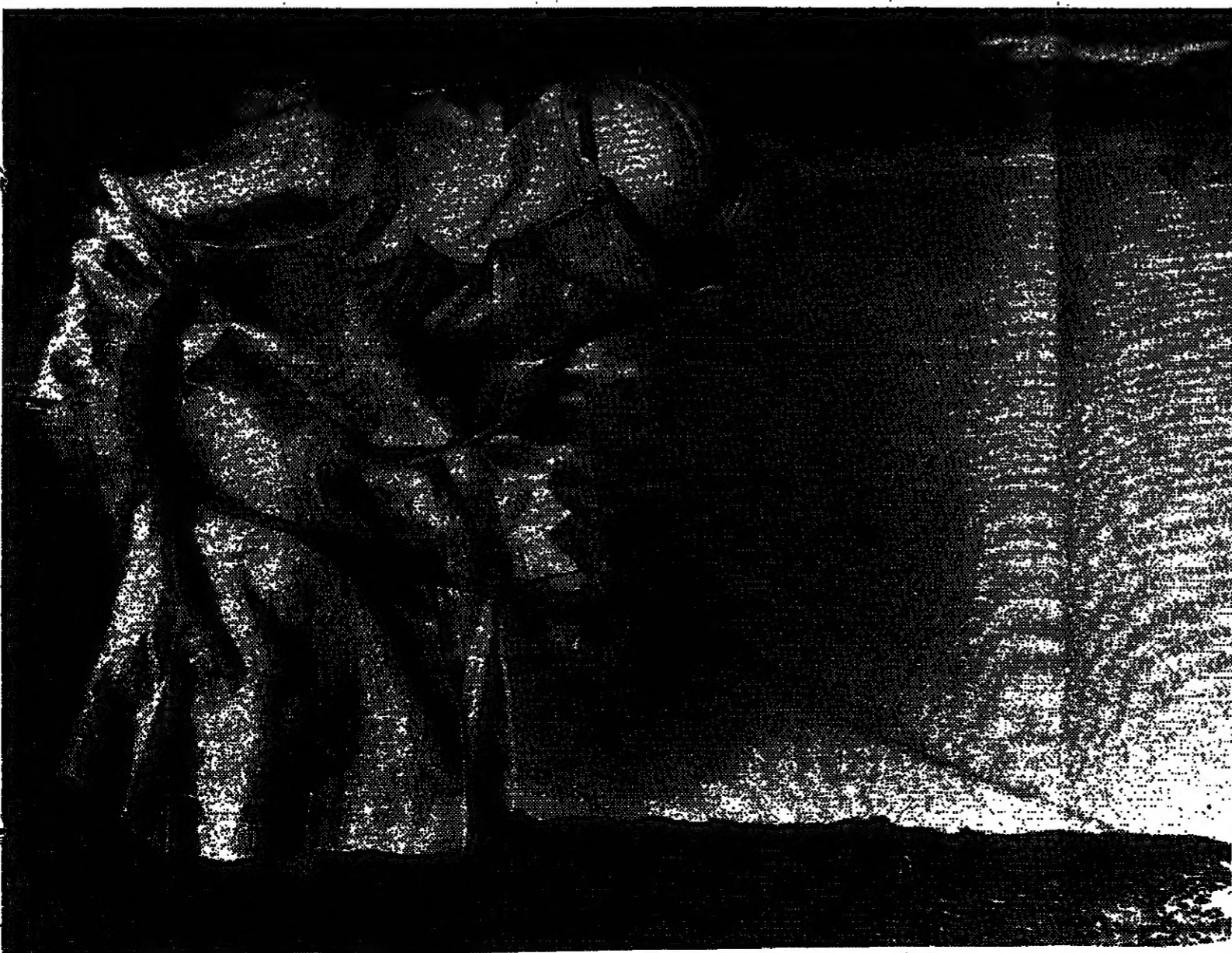
Seattle lineup: At bottom, the 727-100. The next three are models of the 737-300 twin-jet airliner. At the far end of the field are a 737-200 and a 757.



Gulfstream SRA-1 surveillance and reconnaissance plane, above, and its fuselage plan, below.



## Are you getting optimal mileage out of space age technologies?

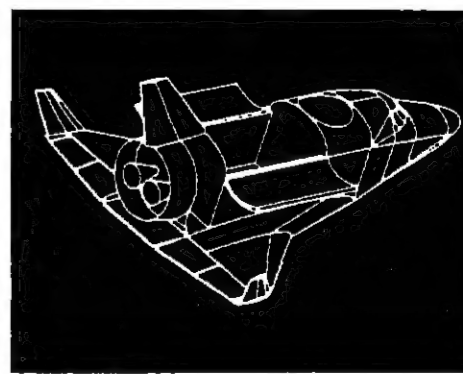


If not, Aerospatiale can probably help. Because staying on the cutting edge of late-breaking technologies is our most exciting challenge.

In fields like robotics, holography, micromechanics and CAD. In steel manufacturing, where we've pioneered innovative applications for plasma technologies or composite materials. Aerospatiale's put kevlar and carbon fibers to work in oil drilling equipment, ships masts and — just recently — an artificial heart.

We think it would be a shame to keep so much useful expertise exclusively to ourselves. Whatever your sector, we think you'll agree.

At Aerospatiale, innovating means sharing. And that's what makes us special.



**aerospatiale**

that's special. that's aerospatiale.

## A SPECIAL REPORT ON AVIATION

# Northrop Steps Up F-20 Competition Against the F-16

By Richard S. Tuttle

WASHINGTON — The fatal crash on May 14 in Labrador of a Northrop F-20 Tigerhawk fighter bound for the Paris Air Show has not deterred the California company from stepping up its bid to compete with the General Dynamics F-16 Falcon for a U.S. Air Force purchase.

Northrop has another F-20 in flight test, but it will remain in the United States and not come to Paris; a third is under construction.

The crash, at Goose Bay during a practice demonstration, is the second for the F-20. The first, which was also fatal and which also happened during a demonstration, occurred last October in South Korea. It was attributed to pilot error. The F-16 is already in the U.S. Air Force inventory, and General Dynamics expects continued purchases. But Northrop, which has spent \$800 million of its own money on the Tigerhawk in what has so far been an unsuccessful effort to sell the plane to other countries, proposed last month to sell about 400 to the Air Force for \$15 million apiece, more than \$4 million under the unit cost of the F-16.

The proposal has sparked interest in Congress and the Air Force and if it goes through, there could be a cut in the number of F-16s now planned.

It has thus gained the attention of General Dynamics. But General Dynamics also said it welcomes competition from the F-20 because the F-16 has proven its superiority. Northrop, meanwhile, says the F-20 can perform any mission assigned to the F-16.

Northrop is basing its pitch on the Air Force's acknowledgment of the importance of competition, as reflected, for instance, in the alternate engine program, in which General Electric has been brought in to compete each year with Pratt & Whitney to supply engines for the F-15 and F-16 fighters. The upshot of the program has been a better deal for the taxpayer.

If the Air Force buys F-20s, the same would also probably be true. Another result for Northrop might be to prompt orders from other countries, something it has been trying to achieve since it started work on the program, competing with a version of the F-16, under former President Jimmy Carter.

Meanwhile, five European countries — Britain, France, West Germany, Italy and Spain — continue to debate how they will proceed on a new fighter of their own, the projected European Fighter Aircraft.

The plan has been to build over 1,000 of these to replace the Jaguars, Phantoms and Starfighters of those countries' air forces, slated for retirement in the 1990s. But disagreements over operational requirements, the amount of work to be done by each partner and who will be in charge of the design have all stalled the program.

The British are proceeding with the Experimental Aircraft Program, which could lead to the Agile Combat Aircraft. And the French are developing the Rafale, which would replace the Mirage 2000.

In the United States, the Advanced Tactical Fighter is being planned by the Air Force as a successor to the current F-15s and F-16s, and the Navy is planning development of the Advanced Tactical Aircraft as a follow-on to present fighters and fighter-bombers.

A consideration in both programs is cost. The Air Force, for instance, will be lucky to hold development cost of the Advanced Tactical Fighter to 50 percent above that of the F-15. To help keep costs down, a committee of Congress has suggested that the avionics of the Tactical Fighter and the Tactical Aircraft be 90 percent common.

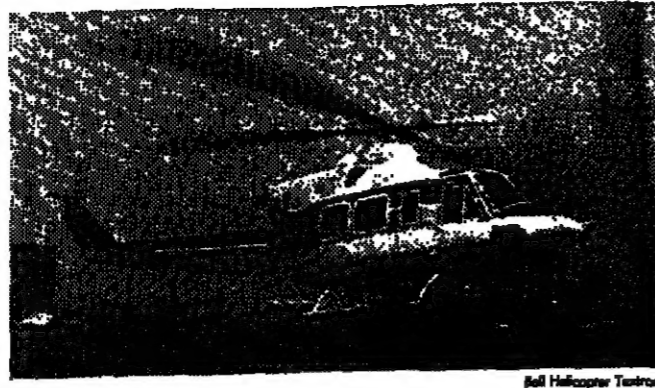
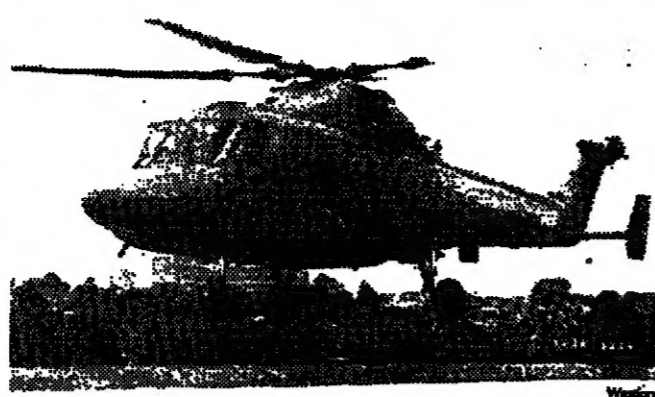
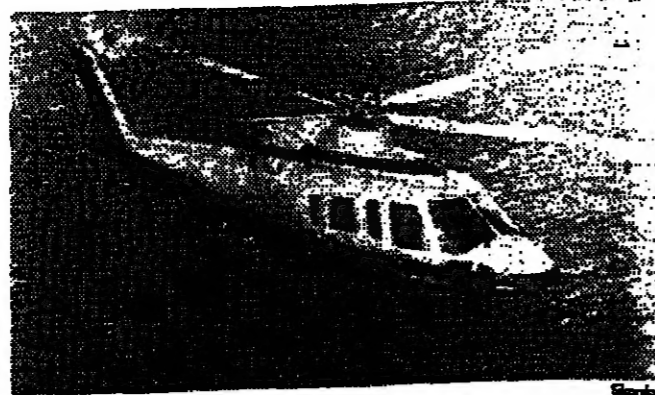
One of the big problems of expensive aircraft is that fewer can be bought, making for a disadvantage in wartime. The trend is already against the West: The Warsaw Pact countries have 2,250 fighter-bomber and ground-attack aircraft, while the North Atlantic Treaty Organization allies have 1,960.

And, while the quality of Soviet aircraft has not been up to that of their Western counterparts, this is changing. For example, the new MiG-29 fighter, which NATO has code-named Fulcrum, "reflects the U.S.S.R.'s continuing drive to produce new generations of tactical, strategic and transport aircraft," according to the Pentagon.

The Soviet Union, as usual, will not be showing any combat aircraft at the Paris show, but it will show for the first time the new heavy-lift Condor transport plane. The Pentagon said the Condor, which is about the same size as the American C-5 Galaxy, will "significantly upgrade" the Soviet heavy-lift capability.

But while Soviet aircraft are becoming more capable, there is also evidence that higher quality is as costly to the Soviet Union as it is to the West.

One way around the problem —



## Helicopters: An Array of Tasks

Above, a U.S. Marine Corps CH-53E Super Stallion from Sikorsky lifts a firetruck. At left, top to bottom: A Sikorsky S-76 designed for executives, Britain's Westland Lynx 3 designed for military use, and a Bell Helicopter Textron Model 412 lands at London's Battersey heliport.

a way that is not new to the Soviet Union and that is finding renewed interest in the increasingly budget-conscious West and in Japan — is modifying aircraft already in service.

West Germany's Luftwaffe, for instance, is upgrading its F-4F Phantoms to keep them effective until the arrival of the European Fighter Aircraft or a comparable plane. And Japan's Air Self-Defense Force wants to improve its current F-1 fighters and keep them operational until the advent of the planned SFX fighter in the early 1990s.

In addition, the U.S. Navy is upgrading its A-6 attack planes and F-14 fighters.

The job of F-14s is to defend the fleet against attack by manned aircraft and cruise missiles. Lessons learned over the past few years during U.S. aircraft carrier operations in the Indian Ocean and in the Gulf of Sidra, off Libya, where F-14s shot down a pair of Soviet-made Sukhoi-22s Libyan fighters in 1981, may find new application in air defense of the continental United

States and Western Europe. The reason is that if the U.S. Strategic Defense Initiative actually leads to systems that can defend against attack by ballistic missiles, air defenses will probably also have to be upgraded.

To detect low-flying "stealthy" aircraft, the United States may eventually use satellite-borne infrared sensors. The "Teal Ruby" spacecraft, intended to evaluate the feasibility of such a plan, is to be launched next spring on a military mission of the space shuttle. The "Hi Camp" infrared sensor, mounted in a U-2, has already shown that infrared devices can detect small aircraft against a variety of backgrounds.

To intercept an intruder once it is detected, U.S. officials envision a ramjet-powered vehicle that could fly twice the distance of current interceptors in half the time. British Aerospace and other European companies are studying similar craft, as well as transsonic vehicles, which would fly from runways, change to orbital flight, de-

orbit, perform a mission, go back into orbit and return to a runway landing. A typical mission might take less than two hours.

While the West is studying new ways of detecting enemy aircraft, attention is also being focused by both sides on ways to avoid detection. Not much is known about Soviet efforts here, but the U.S.

Navy's chief of intelligence has said that Soviet "stealth" technology may first appear in the form of modifications to aircraft already in service.

In Europe, the Experimental Aircraft Program, the Agile Combat Aircraft, the European Fighter Aircraft and the Rafale fighters are expected to feature some "stealth" technology.

And in the United States, the same is assumed for the Advanced Tactical Fighter and the Advanced Tactical Aircraft. Northrop, meanwhile, continues development of the stealth-based Advanced Technology Bomber, which will complement Rockwell International's B-

1B, itself the beneficiary of some stealth technology.

Lockheed, developer of the U-2 and SR-71 reconnaissance aircraft and, therefore, no stranger to the world of detection avoidance, will show its C-130 High Technology Test Bed aircraft at Le Bourget. While the Test Bed itself is not specifically a "stealth" airplane — its basic purpose is to demonstrate the C-130's capability of getting in and out of small fields — it does reflect new interest in special operations and anti-terrorism, an interest that has some of its roots in the failed attempt in 1980 to rescue U.S. hostages from Tehran.

That mission involved a flight of C-130s from Egypt to the north-central Iranian desert, and a flight of Sikorsky RH-53D helicopters to that location from the Arabian Sea.

"It's no coincidence," one industry official said, that the new American V-22 Osprey vertical lift aircraft, formerly designated JTVX, is being designed to perform just such a mission with greater efficiency.

# Civil Helicopters: Sales Are Caught In a Downturn

By Stephan Wilkinson

STRAITFORD, Connecticut — Helicopters have won the hearts and minds of Hollywood, but their success on the civil side of the aircraft business is far more limited than their manufacturers would wish. First came "Blue Thunder," then the TV-series spinoff of that cop-in-chopper movie, and now the even more successful television series "Airwolf," about a fantasy flying-wing faster than a speeding bullet.

"Audiences love 'em, just as they do the copsters featured in such network favorites as 'Magnum P.I.," but they are apparently not yet ready for realistic helicopters.

"There's a crying need for the infrastructure, the downtown heliport, to be in place before helicopters are heavily accepted," said Robert Stangorone of Sikorsky Aircraft, the world's largest helicopter manufacturer. "We're working hard to make it happen. When we go in and brief an intelligent community, they realize helicopters are a lot safer than they had thought. It's usually a small but vocal minority that is opposed to heliports, with both safety and noise fears."

"People have to understand the sound of a helicopter," insisted the Bell Helicopter spokesman, Martin Reisch. "In many cases, it isn't as noisy as a motorcycle or a truck, but it's perceived as a different type of sound."

So while the rest of the economy climbs strongly, the civil segment of the U.S. helicopter business seems caught in the worst downturn in the 40-year history of the business.

Sikorsky reportedly has yet to recover the cost of developing its executive S-76, a sleek turbine twin that has been in production 10 years and that as yet has accrued only slightly more than 200 unit sales. Bell Helicopters has done no better with its smaller Model 222, U.S. helicopter companies have tended to abet overseas competition by agreeing to overseas manufacture of their products.

"That's been the simple formula," said Robert Meck, director of public relations for Hughes Helicopters. "Creating jobs, technology transfer, giving foreign companies the practice in doing it themselves. It's been the standard request by any country as a condition of any significant military sale."

Sikorsky long licensed manufacture of its own large military helicopters, most notably to Mitsubishi.

and cut costs," Mr. Stangorone said, and apparently helicopters are viewed as costly rather than productive. He noted that there also is legislation pending that could change how the Internal Revenue Service looks at corporate aircraft utilization. This could lead to fringe-benefit taxation of certain passengers aboard corporate aircraft, as well as discussion of the investment tax credit being changed.

Largely as a result of domestic stagnation, Sikorsky and other manufacturers are looking overseas for sales and are paying increasing attention to the development of lower-cost militarized variants of such civil helicopters as the S-76, for export to countries that cannot afford bigger craft.

Last August, Sikorsky announced a sale of quasi-military helicopters to China, a marketing victory important not only because it was China's first major purchase of U.S. military equipment but also because it showed the long-established New England company's newly aggressive interest in the international helicopter market.

(Sikorsky was awarded a \$140-million contract to supply China with 24 civilianized S-76s. Blackhawk utility-assault transports easily convertible to troop carriers and with uprated engines for use in the high elevations of the Tibetan border.)

Still, Sikorsky is something of a latecomer to the international arena, having been preoccupied throughout the 1970s with the establishment of two of its three current production programs, the U.S. Army S-70 Blackhawk and the civilian S-76. (Its third prime product is the behemoth CH-53E Super Stallion military heavy-lift helicopter, the biggest rotary-wing aircraft in the non-Communist world.)

Ever since Bell licensed Japanese and Italian production of its classic bubble-domed Model 47 in 1952, U.S. helicopter companies have tended to abet overseas competition by agreeing to overseas manufacture of their products.

"That's been the simple formula," said Robert Meck, director of public relations for Hughes Helicopters. "Creating jobs, technology transfer, giving foreign companies the practice in doing it themselves. It's been the standard request by any country as a condition of any significant military sale."

Sikorsky long licensed manufacture of its own large military helicopters, most notably to Mitsubishi.

(Continued on Page 13)

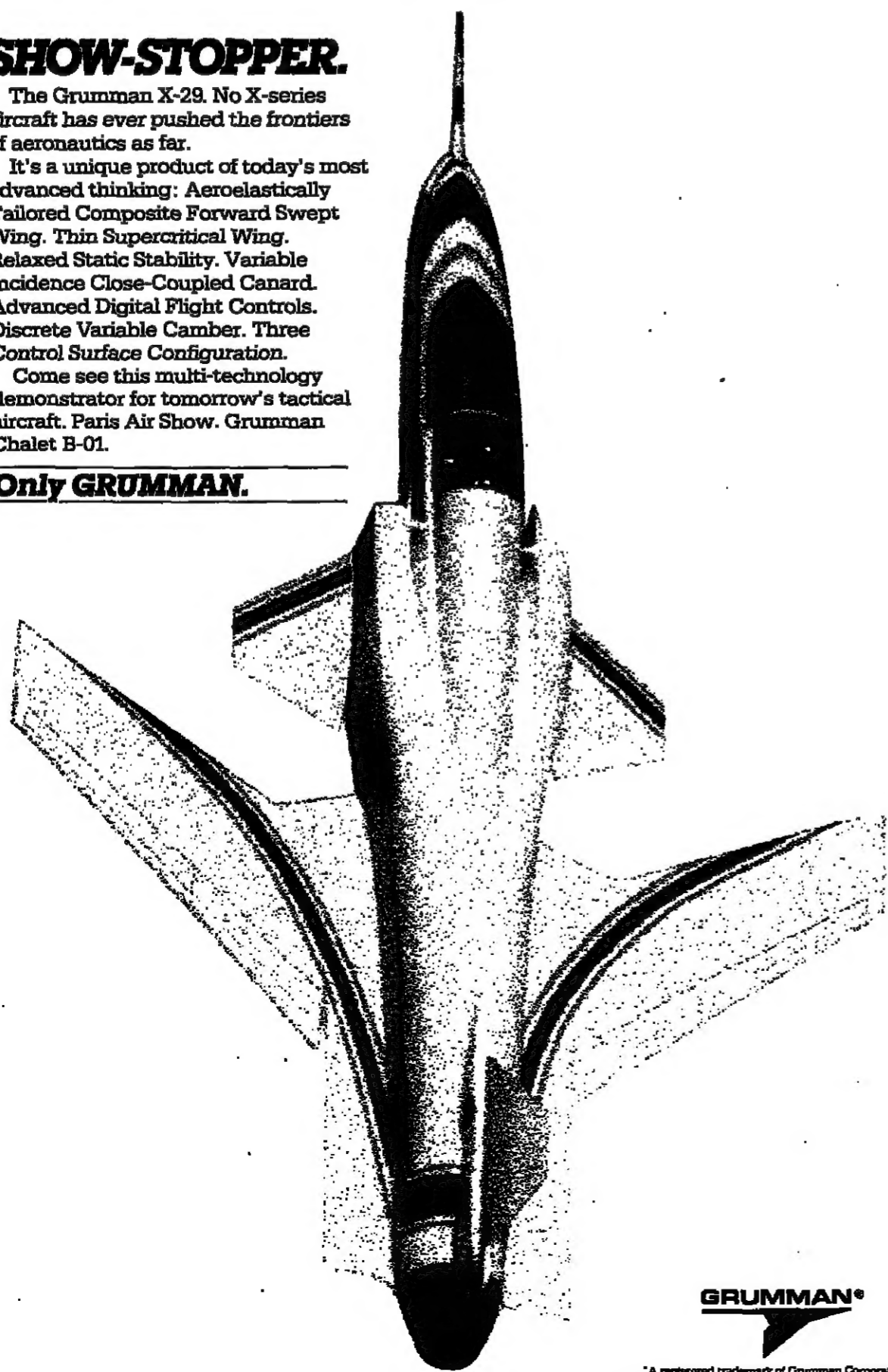
## SHOW-STOPPER.

The Grumman X-29. No X-series aircraft has ever pushed the frontiers of aeronautics as far.

It's a unique product of today's most advanced thinking: Aeroelastically Tailored Composite Forward Swept Wing. Thin Supercritical Wing. Relaxed Static Stability. Variable Incidence Close-Coupled Canard. Advanced Digital Flight Controls. Discrete Variable Camber. Three Control Surface Configuration.

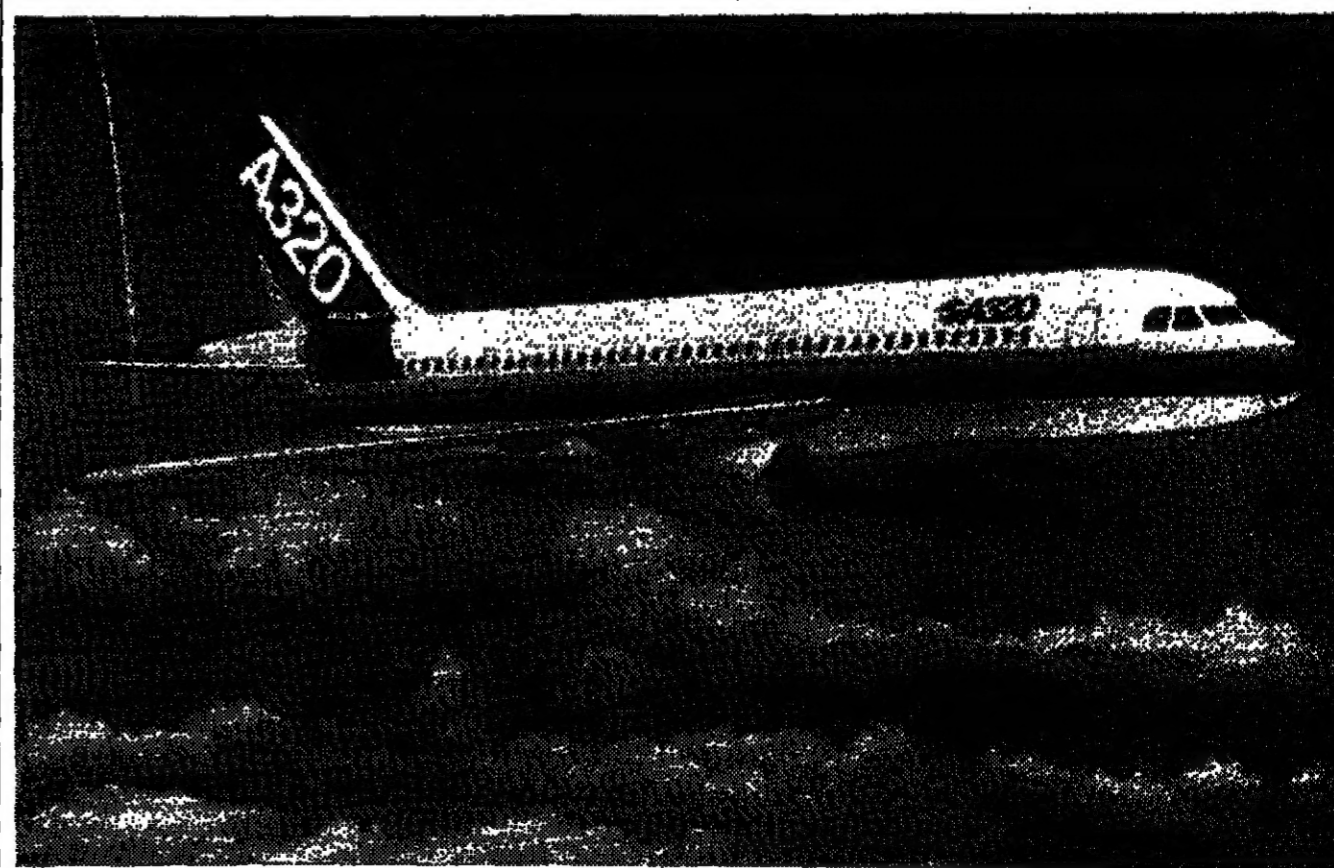
Come see this multi-technology demonstrator for tomorrow's tactical aircraft. Paris Air Show. Grumman Chalet B-01.

Only GRUMMAN.



GRUMMAN®

A registered trademark of Grumman Corporation.



New Airbus: The single-aisle A320 twin-engine aircraft will seat 150 passengers.

# Tensions Threatening Allied Ventures

(Continued From Page 7)

day in Constance, West Germany. The programs also were expected to be what a U.S. executive termed a "very upfront subject" at the Paris Air Show. Many European and U.S. aerospace companies have indicated strong interest in both projects. Mr. Mitterrand recently told reporters that French companies could become involved in Strategic Defense Initiative research programs, if they felt it was in their interest to do so.

Several French military contractors have already held exploratory talks with U.S. officials, as have Italian, British and West German companies, and most of them will attend the air show.

General James Abrahamson, director of the U.S. defense department's Strategic Defense Initiative organization, told reporters in Washington last Thursday that "this subcontractor business" reflected "a misunderstanding." What will probably emerge, he said, will involve "associate contract relationships" between U.S. and European companies. "In some cases, it may well be that a European contractor would be a subcontractor to a U.S. one," General Abrahamson said. But he clearly indicated that the United

States fully intended to maintain leadership in the initiative, and he did not elaborate on what he meant by "associate contract" arrangements.

This is not to say that European governments are dropping their efforts to attain greater independence from the United States in high-technology areas with civilian and military applications. In fact, there still is a decidedly upbeat consensus in Western Europe that, when it comes to aerospace, Europeans can stand up to Americans — and succeed.

Some examples: the euphoria in Paris, London and Bonn when Pan American Airways last autumn announced that it planned to buy Airbus planes for about \$1 billion; every launch of Ariane, the European Space Agency's project, draws heavy media coverage in Europe. Articles and editorials on launches regularly mention the heated competition between Ariane and launch services of the U.S. National Aeronautics and Space Administration, even though the European Space Agency, which sponsored Ariane, and NASA plan cooperating in the manned U.S. space station planned for the 1990s.

Another example drawing con-

siderable attention is the European Fighter Aircraft project, which would be the largest European venture since the Tornado fighter-bomber project was established by Britain, West Germany and Italy in 1969. It could lead to the building of 1,000 aircraft, representing orders of about \$30 billion.

"EFA is one project, among others, we watch most closely and take very seriously," commented a senior U.S. diplomatic official in Paris. Most diplomats and industry observers consider the project a major test of Europe's aerospace industries to cooperate on a military project with a record number of potential partners.

Currently, however, the project is clouded by controversy between the British and French aerospace industries, which could cause it to unravel. Defense ministers of five participating governments, meeting in Rome on May 17, agreed on the weight and engine requirements for the European Fighter Aircraft project, but left unresolved such crucial and highly-controversial questions as design leadership and work sharing. In fact, the European project illustrates how the current, contradictory conflicts cut across governmental and industry lines in

Europe and how, in the end, some kind of "U.S. solution" may yet emerge, particularly if France withdraws.

The immediate controversy stems from the insistence on design leadership that has been made repeatedly by Avions Marcel Dassault-Breguet Aviation, a leading participant in the project. British Aerospace PLC has insisted on equal work-sharing among the participants, which will also include West Germany, Italy and Spain. The Netherlands also is expected to join the venture.

Both Dassault and BAe plan flying their demonstrator planes next year to test the latest technology and materials that could be incorporated into the European Fighter Aircraft project.

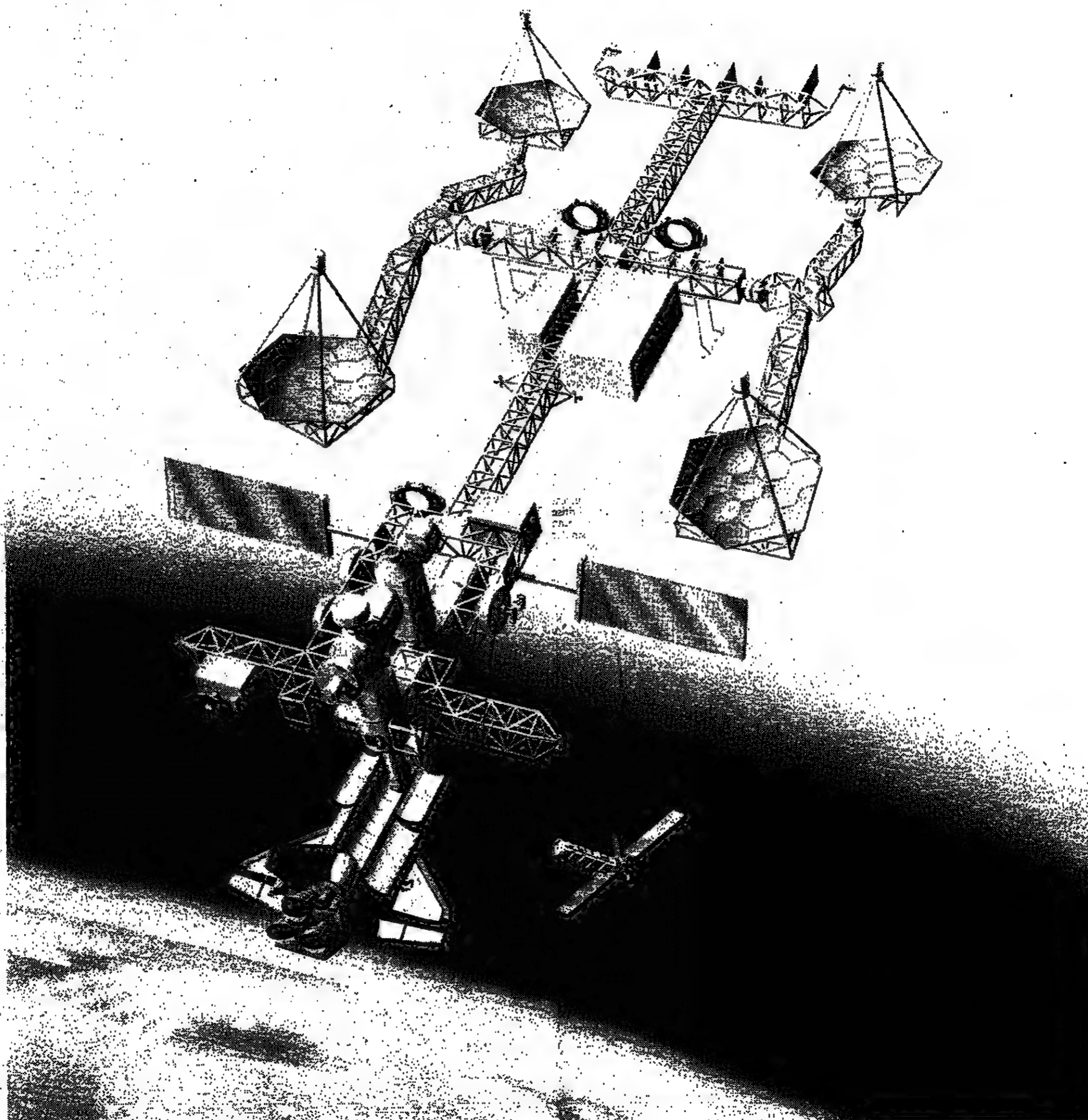
British and West German government officials have recently indicated that they are counting on the French government to pressure Dassault into cooperating in what they term the broader interests of a "European solution."

But senior French aerospace industry executives, however, said that they doubted that the government, including the Elysée Palace, would press hard, even though the state with a 46-percent interest, is

(Continued on Page 14)

**'vizh·ən**

- The perception of something not previously existing, such as Rockwell International's innovations in the design and electrical power system for the NASA permanently manned Space Station.
- An anticipation; e.g., of customer needs, like that which led to Rockwell's successful bids for design and building of the NAVSTAR GPS satellites and to our winning of the initial U.S. Air Force contract for GPS User Equipment.
- A mode of seeing or conceiving; e.g., in our design, development and production of the U.S. Air Force B-1B.



## Engineering concept of a permanently manned space station

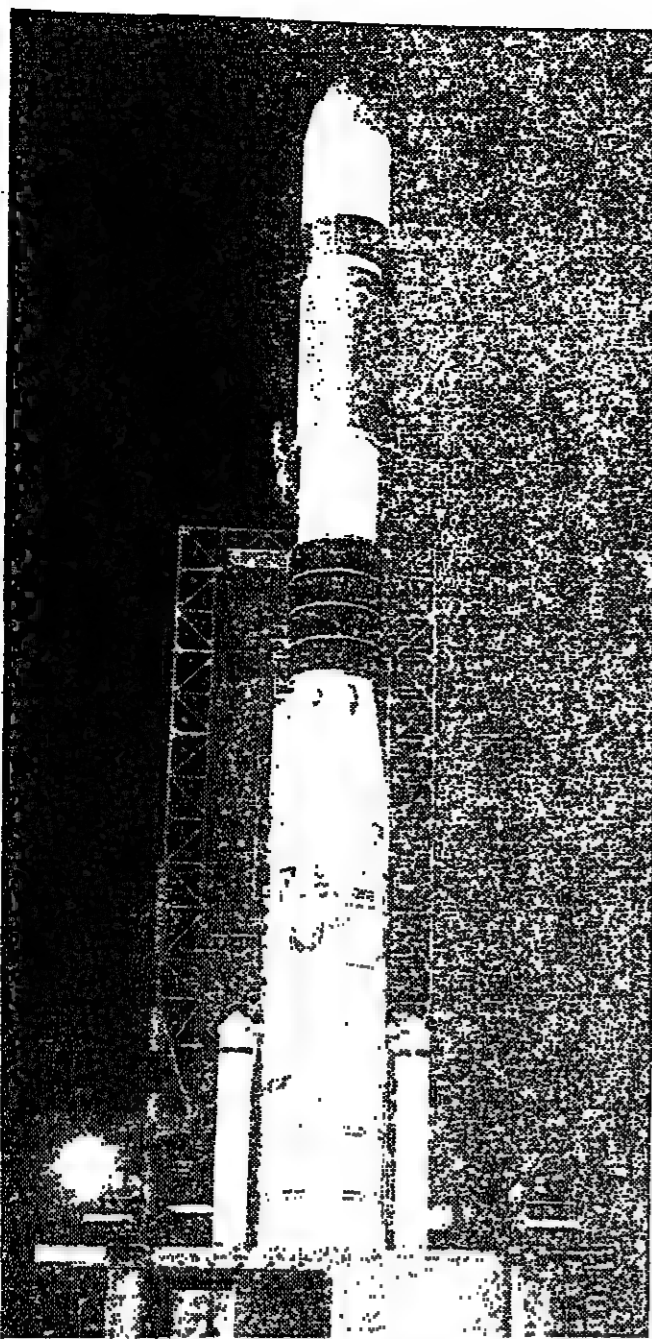
Rockwell International's leadership: It's apparent at the Paris Air Show. And in everything we do in aerospace.



# Rockwell International

**...where science gets down to business**

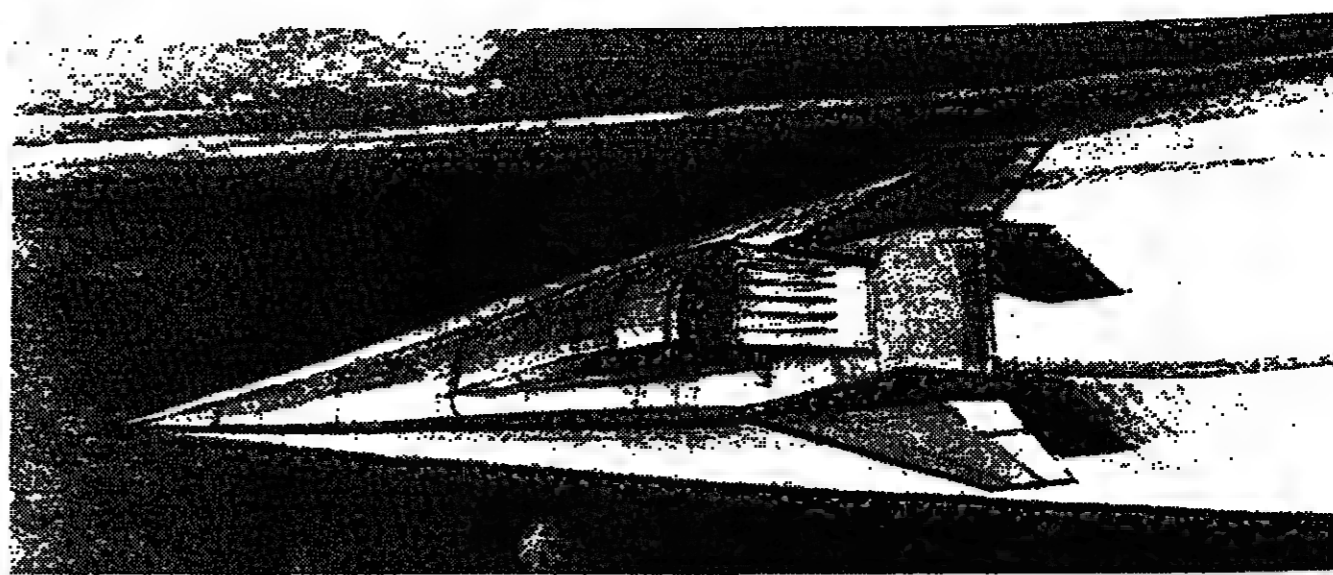
**Aerospace / Electronics / Automotive  
General Industries / A-B Industrial Automation**



Ariane on its launching pad.



Hermès, the European competition to the U.S. shuttle.



Drawing of one of NASA's projected transatmospheric hypersonic airliners.

## The Spaceplane: Picking Up Where NASA's Shuttle Stops

(Continued From Page 7)

would do. In case of war, the shuttle might be too vulnerable to be used at all. Not only is it subject to attack when it is on the launch pad, but all an enemy has to do is take out the three launching pads—two in Florida and one in California—and the shuttle would be grounded for a long time.

The transatmospheric vehicle, known as TAV, could skip in and out of the atmosphere, providing the pilot a chance to photograph ground targets, deliver weapons or approach enemy satellites in orbit, then quickly maneuver away. TAV could fly around the world in 90 minutes, taking off in any weather. It is being described by one Air Force aeronautics official as "a killer Air Force weapon system that can go out and get the enemy."

An early definition of the transatmospheric vehicle was provided by Battelle Memorial Institute, with assistance from aerospace companies that included Boeing

General Dynamics, Lockheed, McDonnell Douglas and Rockwell. This spaceplane, with a two-man crew, might make as many as two flights a day into space with high-priority cargo on board.

Another vehicle, dubbed the space cruiser, has been studied by the Defense Advanced Research Projects Agency. The cruiser might be carried into space in the shuttle cargo bay, then released to perform a mission and re-enter earth's atmosphere and land on its own.

In early 1985, the transatmospheric vehicle was brought under the wing of a new Air Force spaceplane program, called Advanced Aerospace Vehicles, that consolidated work on advanced military spaceplanes.

An orbital aircraft that could carry 20,000 pounds to any orbital plane and accelerate directly from a runway to orbit also has been studied by the Air Force. Recent technology advances in propulsion, thermal-protection systems and materials and structures have changed the attitudes of some mili-

tary airplane experts, who used to think such a plane was not feasible. This spaceplane, with a two-man crew, might make as many as two flights a day into space with high-priority cargo on board.

Another vehicle, dubbed the space cruiser, has been studied by the Defense Advanced Research Projects Agency. The cruiser might be carried into space in the shuttle cargo bay, then released to perform a mission and re-enter earth's atmosphere and land on its own.

In early 1985, the transatmospheric vehicle was brought under the wing of a new Air Force spaceplane program, called Advanced Aerospace Vehicles, that consolidated work on advanced military spaceplanes.

An orbital aircraft that could carry 20,000 pounds to any orbital plane and accelerate directly from a runway to orbit also has been studied by the Air Force. Recent technology advances in propulsion, thermal-protection systems and materials and structures have changed the attitudes of some mili-

tary airplane experts, who used to think such a plane was not feasible. This spaceplane, with a two-man crew, might make as many as two flights a day into space with high-priority cargo on board.

Another vehicle, dubbed the space cruiser, has been studied by the Defense Advanced Research Projects Agency. The cruiser might be carried into space in the shuttle cargo bay, then released to perform a mission and re-enter earth's atmosphere and land on its own.

In early 1985, the transatmospheric vehicle was brought under the wing of a new Air Force spaceplane program, called Advanced Aerospace Vehicles, that consolidated work on advanced military spaceplanes.

An orbital aircraft that could carry 20,000 pounds to any orbital plane and accelerate directly from a runway to orbit also has been studied by the Air Force. Recent technology advances in propulsion, thermal-protection systems and materials and structures have changed the attitudes of some mili-

atmospheric research as the third U.S. aeronautics goal for the future. The policy directed U.S. aeronautics researchers to work toward capability "to routinely cruise and maneuver into and out of the atmosphere with takeoff and landing from conventional runways."

The National Aeronautics and Space Administration plays a role in demonstrating the feasibility of programs like the transatmospheric vehicle. Jack Suddreth, NASA assistant director for aeronautics—high-performance aircraft—said the agency will spend \$5 million this year on hypersonic research, more than half of which will go toward propulsion that will help build a research base for future aerospace planes.

The United States is not alone in working on new advanced spaceplanes that may be flown by the end of the century. The Soviet Union has tested its unmanned spaceplane four times already. Western analysts of the Soviet space program disagree on what

the Russians' ultimate purpose in testing the subscale vehicle is, but one theory is that it is a small version of a manned vehicle that will be launched later.

Three European nations are advancing concepts for new space vehicles, although they most likely will have to narrow the ideas down to one and jointly fund a cooperative program to get the vehicle off the drawing boards and into development. The French concept, called Hermes, has received the most publicity and probably is the most developed. Hermes, a mini-shuttle, would transport cargo and a crew of up to six to space or the space station in the late 1990s. France has funded research and development for the program to date; the European Space Agency ministers council said in February that it would welcome the invitation to participate in Hermes. Aérospatiale and Dassault are competing to become the prime contractor for Hermes, and an announcement of the winner is expected soon.

The West German firm MBB/Erno has proposed an unmanned vehicle called HORUS (Horizontal Reusable Utilization System) that would be launched on top of Ariane 5. HORUS would return to Earth after accomplishing its payload delivery and land automatically. In the United Kingdom, British Aerospace has proposed an unmanned spaceplane called HOTOL (Horizontal Take Off and Landing). HOTOL could take off and land automatically on conventional airport runways.

How much will these spaceplanes of tomorrow cost? Solid cost estimates for most of the systems are not available, but one Air Force official summed it up by saying: "A TAV-like system will be a very, very expensive way to operate. . . . Affordability is a prime driver."

Because of the high costs, U.S. and European officials will have to study the concepts very closely before making any commitments to build them.

## As Avionics Advance, the All-Digital Airplane and Its 'Glass Cockpit' Near Reality

By George C. Larson

HENDERSONVILLE, North Carolina—Manufacturers of electronics are adapting the newest generation of avionics equipment to meet the requirements of aircraft users, ranging from defense customers to airline and business-fleet operators. Customers are becoming more selective as they gain experience with all-digital avionics systems, which introduce an entirely new set of operating principles.

Traditionally, avionics systems consisted of radio receivers wired to individual displays in the cockpit. When the proliferating number of displays began to exceed the ability of a pilot to scan and act upon the information, a movement to integrate displays and create a pictorial representation of the airplane's position in space got under way. Complex mechanical arrangements to provide these "pictures" brought problems of their own.

The gradual introduction of digital computers in navigation and flight-control systems increased the information flow by an order of magnitude. Today, a single twisted pair of wires, a "databus," handles all the informational traffic that used to be carried by enormous bundles of individual wires.

The all-digital airplane is a reality: Boeing and Airbus build airliners that depend upon central digital processors to integrate the signals received from navigation "sensors" (the new term for the radio receiver) and to display the navigation situation on a cathode-ray tube. Military aircraft are already embarking on a second and third generation of such digital electronics. And in December 1984, the world's first all-digital business airplane, a British Aerospace 800, entered service.

How has the customer responded? With enthusiasm, largely, but with some misgivings as well. For one thing, sophisticated end users such as airline companies were initially bewildered by avionics systems driven by software (computer codes embedded within memory devices) rather than circuits and wires, which formerly defined electronic functions.

Airlines that had been accustomed to supporting their own electronics found a strange new world inside the new black box. But they learned fast. And some initial problems in protecting the computers and their software codes, the heart of digital avionics, from the intrusions of power interruptions were solved.

As they have gained experience, the airlines have been feeding back suggestions to the industry, and the next generation of avionics is currently being defined, but with some of the suggested changes designed into them. New systems for the next generation of airliners include the so-called "all-electric airplane."



British Aerospace's Linescan 214 airborne infrared reconnaissance system.

using high-voltage DC current and combining inertial navigation and air data sensors into a single system.

In the past year, electronics manufacturers have encountered stiff resistance to the high price of the first-generation all-digital airline radio systems; the Airline 700 family. Since many of these same

manufacturers also offer lower-priced systems for business airplanes (smaller turboprops and bizjets), they have responded by offering these lower-cost systems to the more sophisticated airline and military buyers.

Complicating the picture is the astonishing popularity of smaller airliners such as the Boeing 737

family, McDonnell-Douglas MD-80, and the Fokker F-28 derivatives. Hailing from an older technology that discourages "all-digital" avionics, these airplanes are natural targets for more flexible electronic suites designed for business airplanes that have a mix of digital and older analog circuits.

One new system finding wide acceptance is the ring-laser gyro. Honeywell and Litton are the major contenders in the highly competitive airline market, while a number of technology houses are

developing laser-gyro applications for military systems. The laser gyro, with virtually no moving parts, replaces a complex mechanical set of ultra-precise, high-speed metal gyroscopes sensor platforms.

The laser offers immense gains in reliability, offering many thousands of hours of trouble-free service instead of hundreds of hours for the old "iron" wheels. Computer-based navigation management systems are also maintaining the pace, but here, the contenders are not so clearly set: Scandinavian Airlines System recently ordered King Radio's KNS-660 long-range navigation computer, a system conceived and configured primarily for business airplanes, for use on its European routes.

Racal recently announced a new navigation computer and hopes to make headway among European

gradually being introduced as a replacement approach and landing aid, offering significant improvements in the accuracy of the radio beam that provides the guiding path to the airplane. Satellite-based navigation, currently being introduced to military customers, is being readied for the civil fleet as well.

The 1983 Paris Air Show witnessed the arrival of the first transatlantic flight using the global-positioning system satellites as the sole means of navigation. A Rockwell Collins Sabreliner arrived at Le Bourget Airport and taxied to within a few feet of a target marker as a demonstration of the system's accuracy.

All the major suppliers of electronic flight instrument systems, sometimes called the "glass cockpit" because of the use of cathode-

**New systems for the next generation of airliners include the so-called "all-electric airplane," using high-voltage DC current and combining inertial navigation and air data sensors into a single system.**

customers. Expansion of Loran-C navigation, particularly in North America and the Middle East, has at least partly blunted the more expensive Omega navigation system; Omega's trump card is its virtual global coverage, compared with the regional Loran-C "chains" which blanket an area closer to their transmitters.

The next step in navigation will be complete "flight management," or computer direction of the navigation situation in all axes of flight. A computer can even equip the pilot to handle the fourth dimension: time. With such advanced systems, currently in the planning stages, an airplane can come within moments of touching down at its destination at a precise time set in advance of the flight. This development is eagerly anticipated as one possible solution to current capacity problems at the world's congested terminal airports.

Microwave landing systems are ray tubes in place of mechanical instruments, say they have been approached by airline manufacturers and operators who are interested in the smaller, lower-cost systems intended for business airplanes. The smaller sets give up very little in features and performance while offering a significantly lower purchase price. At the same time, a number of manufacturers are introducing replacement digital navigation systems that are "plug-compatible" in the Boeing 727, which is still the dominant airplane in the world fleet.

Right now, the toughest sell for the avionics houses are fuel-saving computers developed when the cost of fuel was on an upward spiral. Airline customers are having trouble justifying their purchase in a period of relatively stable jet fuel prices, and with no threat of price increases in sight.

## Creative Financing in a Buyers' Market

(Continued From Page 9)

effort are France's Société d'Exploitation et de Constructions Aéronautiques (a subsidiary of Aérospatiale), Fokker B.V. of the Netherlands and Canada's Canair Ltd.

Not all the wheeling and dealing is limited to new machines. By most accounts, some of the most interesting cases occur in the used-aircraft market, especially among the airlines.

A few of these were described during a financial conference last month in New York City sponsored by Britain's Airfinance Journal. Juan O'Callahan, founder and president of Connecticut-based TAI Inc., a transportation analysis firm, and a former assistant to the sales chief of Boeing's commercial aircraft division, provided most of the details.

In one case, he said, People Express capitalized on confusion in the aircraft market in late 1982 and 1983 that stemmed from the bankruptcy of Braniff Airways. People Express, Mr. O'Callahan said, "made several superb acquisitions." One involved an estimated \$30-million profit on the purchase of 20 Braniff Boeing 727-200s, which were built in the mid-1970s.

People Express paid an average of \$4.6 million for each aircraft, which was "about \$1.5 million below the fair market value at subsequent recovery market conditions a year or so later," he said.

In April 1983, People Express also leased a 1979 Boeing 747-200B from Braniff "at an extraordinary lease rate for this model of only \$250,000 per month," Mr. O'Callahan said. The leasing agreement also gave People Express the option to buy the 747 and a spare engine for about \$25 million. Within a year, "Northwest and several other international airlines" were searching for similar models, Mr. O'Callahan said. People Express exercised its option to buy the Braniff model at the \$25-million price, then "sold the aircraft to Northwest for about \$39 million late last year."

Northwest last year, engineered a deal of its own. The Minneapolis-based airline struck a deal with Boeing to buy two 747-200s that originally were ordered and built for Braniff, which never took delivery because of its financial problems. Northwest, according to Mr. O'Callahan, paid \$61.4 million for each of the 747s "These essentially brand-new airplanes, with an equivalent 1984 delivery price of

\$78 million, would have had a current 'used' fair market value of \$66 million, according to our analytical model," he said.

European airlines have their own success stories, according to Mr. O'Callahan. He recounted how Italy's Alitalia sold to Federal Express three DC-10-30s that were built in the early 1970s. The price was "over \$25 million each, which we would have determined to be about 25 percent over the fair market value at the time of the transaction."

United and Scandinavian Airlines also "pulled off a strategic buying coup" last year, when they acquired five former Laker DC-10-30s. He said they paid \$25 million for each of the aircraft. "We placed the fair market value of these young, low-time aircraft at \$31.6 million each at the time of the transaction, and their value will be moving up to \$39 million as the larger widebody market continues to firm up further in 1986 to 1987," he said.

As long as such deals are available in the used-aircraft market, manufacturers will be forced to continue developing innovative ways to attract buyers for their new models, according to industry observers.

## Make an appointment to see where the future of executive jets is headed.

The new Gulfstream IV is at Le Bourget for the Paris Air Show through June 9. And if you want to see what the next generation of the world's most experienced executive jet aircraft offers, make sure you see the Gulfstream IV.

You'll step into the full-size, fully outfitted mockup of the largest, longest cabin of any corporate jet, and sit in a cockpit more advanced than a commercial airliner.

Arrange your visit, contact Joseph E. Anckner, Vice President, Gulfstream International Marketing, at 83-68-560 (Paris) between 0930-1630 hours. By appointment only, please.

May 31 through June 9, 1985. At Le Bourget Airport during Salons Internationaux de l'Aéronautique et de l'Espace.



**The Gulfstream IV.**  
So advanced, it's revolutionary.

50/50/50

## Smaller-Aircraft Industry Takes a Nose Dive

HENDERSONVILLE, North Carolina—General aviation, a category of smaller airplanes for personal and commercial use, is in the middle of a severe downturn. The casualties include everything from perennial classics to new entries: the Commander turboprop twin, once a big seller; the Aerostar, at one time the fastest piston-powered light airplane in the world; the Percgrine, which was to have been the world's first single-engine business jet.

In its first quarter of 1985, general aviation experienced the worst decline in deliveries since 1946. One manufacturer now offers only half the product line it had a few years ago. And forecasts for the coming year promise little improvement.

The smallest general aviation airplanes are trainers powered by piston engines and the largest are heavy jets capable of spanning continents and oceans. And although the airplanes powered by turboprops and turboprops have managed to sell at a rate sufficient for survival, the global downturn in sales of general aviation aircraft that has now dragged on for almost five years has even made its impact felt in the heavy ranks. The sales of used planes now overshadow the once brisk activity in sales of new machines.

The chairman of Cessna, Russell Meyer, recently told financial analysts that turbine aircraft, once responsible for 35 percent of his com-

pany's business, now account for 80 percent. Turbine-powered planes bring higher prices, which has enabled Cessna to minimize its drop in revenues despite the drastic reduction in units delivered.

In the early 1970s, despite the "oil shock" and recessionary forces that struck almost every other segment of aerospace, general aviation remained buoyant, setting sales records year after year and gaining a reputation as a business that was truly "recession-proof." Regarded as a cyclic industry, general aviation has weathered periodic slow-downs before and bounced back on schedule. What happened this time to create such gloom?

Most experts believe the causes center on economics. Some cite the rise in price of new airplanes at the same time that tax allowances, which had eased aircraft purchases, were threatened, creating a climate of uncertainty. In the early stages of the current downturn, the manufacturers pointed to psychological factors, primarily the feared effects of the recession. But as recently as mid-April, James Walsh, president of Beech Aircraft in Kansas, noted that uncertainty, this time over changes in tax regulations, had cost his company orders for 45 business airplanes with an estimated value of \$81 million.

Others note that the massive production of the boom times, when sales of 10,000 airplanes by members of the U.S.-based General Avi-

ation Manufacturers Association was considered a slow year, may have created a pool of relatively young airframes that could theoretically satisfy the buyers for many years. The association's current forecast calls for production this year of only 2,438 units worth between \$1.8 billion and \$1.9 billion — and that may not be enough to sustain the entire industry in its present form.

Hardest hit of all are the personal light planes aimed at individual buyers. With fewer new pilots in training, their future market appears bleak. And their prices have risen to the point where buyers perceive them as out of reach. With volume so low, manufacturers point to the rising cost of product liability insurance premiums — some have doubled in a single year — as the force behind price increases, which, in turn, lead to fewer sales. Thus, fewer numbers of airplanes must bear an increasing share of a growing burden. One proposal currently being offered would limit the manufacturers' liability on airplanes older than some agreed-upon age.

U.S. manufacturers, for years confident of selling about a third of their output in export markets, have watched this business slow to a trickle as high prices, combined with the strength of the dollar, have priced the light airplane too high for offshore buyers. Cessna, with its own affiliate in France and mar-

ket strength in areas such as Southeast Asia, said its exports are half of what they once were. (The company is currently in talks with China concerning possible joint production of some of its utility airplanes.)

Some limited sales to military and government customers have helped to bridge the loss of civilian sales at Learjet, which leased a version of its Model 35 to the U.S. Air Force, and Cessna, which delivered a trainer version of its Citation jet to the navy and supplied sensor planes to the Customs Service. Gulfstream Aerospace also dipped into government markets, with a VIP transport for the air force.

The Canadian and West German governments recently bought Canadian Challenger business jets, and the French maritime patrol has new Dassault Gaudin jets. The United States manufactures most of the world's supply of general aviation airplanes, with a single exception: the business jet. Aircraft designed for executive transport are built by Canada, Britain, France, Israel and Japan, making this business truly international.

The U.S. aircraft manufacturers complain that their overseas competitors enjoy government support that is denied to them, but makers of engines, electronics and systems are more cautious. Their products are installed on most aircraft manufactured outside the United States.

A downturn of such unprecedented depth and duration has had profound effects on the manufacturing companies and the executives who lead them. Beech Aircraft was acquired by Raytheon just before the sales of airplanes began to

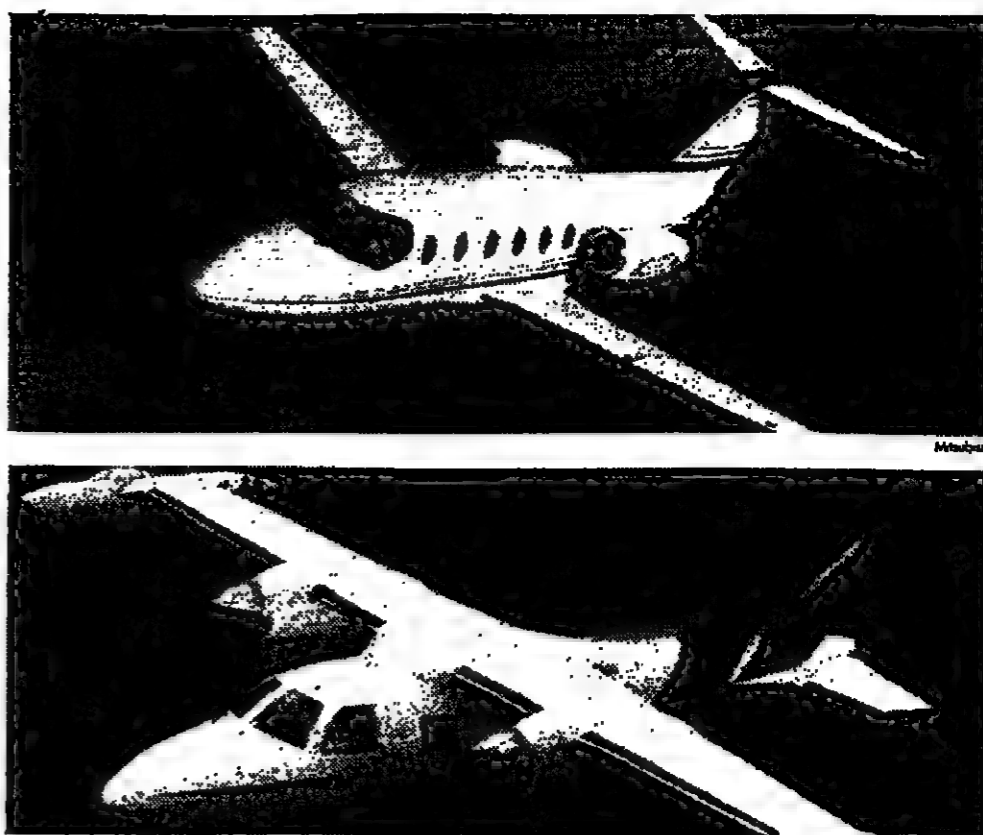
tumble, and Beech has slowed down some of its development programs. In February 1984, Lear Siegler acquired Piper Aircraft and almost immediately began to consolidate its facilities to meet a dramatically reduced forecast of only 600 units for 1985, basically unchanged from 1984.

In announcing the figure, Robert Wyma, Lear Siegler vice president in charge of Piper, said, "It doesn't appear that the market is going to come back as quickly as everyone would like it to, and it will probably never come back as strong as it did in the past."

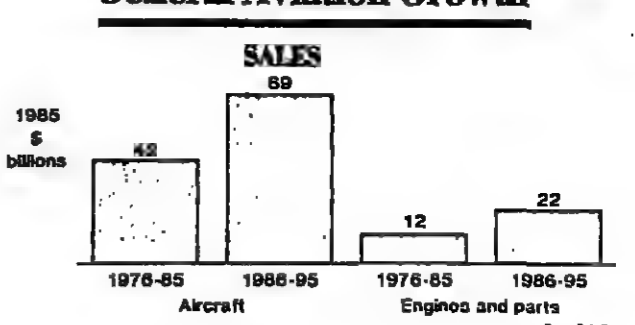
Most industry managers are now beginning to think the change may be permanent, that general aviation manufacturers face a future of slow, essentially flat, growth. All the companies have scaled back in size, cutting plant, equipment and manpower. The process of inventory reduction has finally begun to work by midyear. In March, Learjet resumed limited production of its civil Model 35/36 after a total shutdown of civil-aircraft production that began in September 1984. In May, it resumed production of the larger Model 55. But both production rates are low.

One theory says that buyers are waiting for next-generation airplanes: Beech's Starship and the Gates-Piaggio GP-180 — both high-performance turboprops. Another theory says "pent-up demand" will rescue the industry in the near future. But the general aviation manufacturers, burned in the past by such predictions, appear ready to stay lean and concentrate on surviving over the long haul.

— GEORGE C. LARSON



General Aviation Growth



The Diamond 1A from Mitsubishi, top, and the firm's Solitaire model, at bottom.

## Highlights of High Technology. MBB, German Partner in International Programs at the 36th Paris Air Show.

The Super King Air 300 model from Beechcraft, above, and the Brockway 1900C airliner, below.



## Helicopter Sales in Downturn

(Continued From Page 10)

shi, the Italian Agusta firm and Britain's Westland Helicopters, and many have commented that the company established its own toughest competitors.

"Yes, we really got the world helicopter market going with our original licensing agreements," said the former Sikorsky director of public relations, Robert G.H. Carroll 34, "but with what are now 20-year-old designs. Helicopter technology is a very complex thing, and in a market that already has too many people in it, you want to pair up with somebody rather than competing with them."

Today, Sikorsky is forming international research-and-development partnerships with foreign aerospace firms rather than supplying existing engineering. Sikorsky guards its position as the technological center of each project yet at the same time allies itself with overseas companies that can both contribute to Sikorsky's objectives and, in return for jobs, aid in the opening of their own domestic markets.

"There are some revolutions coming in helicopter design, mainly in the areas of speed, flight-control improvements and composite structures, and what we're saying overseas is, 'This is a two-way street; get with us and you can share in this market and these revolutions,'" Mr. Carroll said.

Sikorsky's most important high-technology project is the preparation of its prototype for the U.S. Army LHX helicopter, which could provide the winner with a contract for 5,000 to more than 6,000 new-generation utility scout and attack aircraft and could well be the biggest single aircraft buy ever made by the military.

Sikorsky has flight-tested a helicopter with an airframe made entirely of Kevlar and carbon-fiber composites, and the company feels it is the industry leader in this vital field. It is likely that the LHX will be largely made of composites.

A tough LHX competitor will be Hughes Helicopters, which is allied with McDonnell Douglas and has a lucrative contract to manufacture the U.S. Army's AH-64 Apache attack helicopter. "That's a big program with a lot of international possibilities," said Mr. Mack of Hughes. "A number of countries need a second-generation attack helicopter, and there is keen interest in the Apache, especially in Israel and Saudi Arabia."

Mr. Mack said that largely because Hughes is part of a military-aerospace company with a very strong overseas marketing organization, "we are moving from being a neophyte to being a very effective international marketer."

Bell Helicopters has been finding it difficult to sell overseas in the face of a strong U.S. dollar. "It's a very competitive market," Mr. Reisch said, "and it's getting to the point where everyone is looking for co-production or offsets, some kind of deal where they get a piece of the action in return for the dollars they have to spend over here."

Bell has also been put slightly off balance by the recent announcement that its parent conglomerate, Textron, has put the profitable helicopter company up for sale, in order to help raise the \$1 billion it needs to cover its purchase of a fellow conglomerate, Avco, last December.

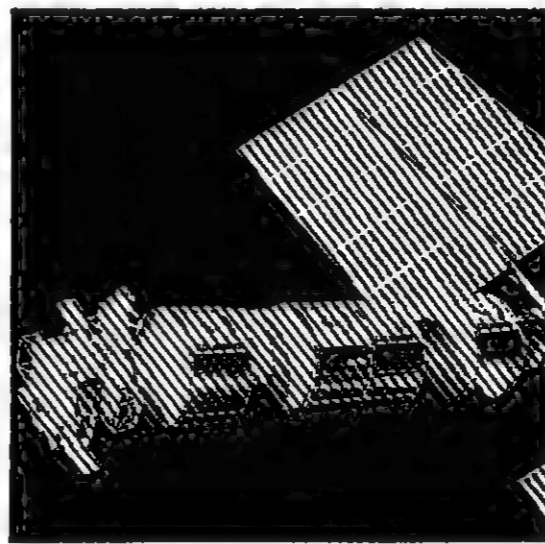
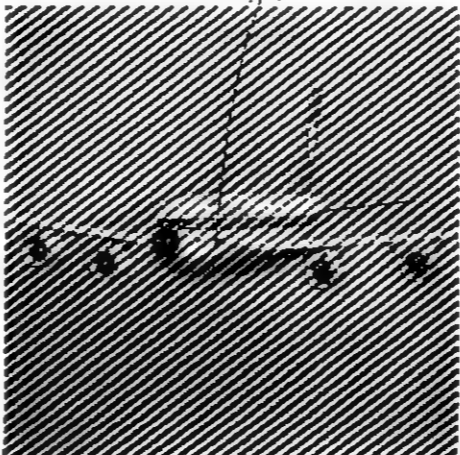
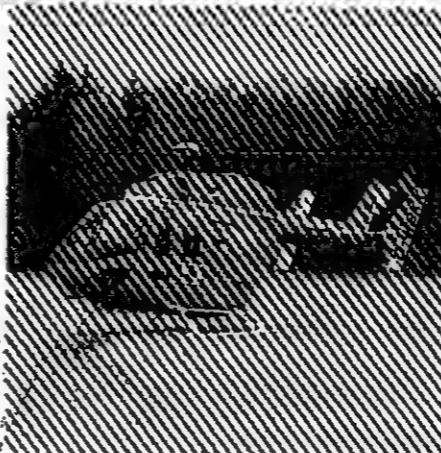
Bell lost out on the China sale to Sikorsky, but the company is delighted to be setting up a cooper-

ative program with the government of Canada, which wants to establish a domestic helicopter industry. A Canadian Bell manufacturing and office facility is scheduled to open this October in Quebec.

"We're providing a new family of light-twin helicopters that will be manufactured in Canada," Mr. Reisch said, "and there will be follow-on models with increasing Canadian content, eventually to be completely designed as well as manufactured in Canada." The third in that line, the Bell Model 440, "will be virtually an all-composite aircraft," he said.

Bell, with a line of somewhat smaller helicopters that Sikorsky can offer, seems to be having slightly better luck in the civil market. "The executive market is good," Mr. Reisch said. "It's coming back quite well, and so is the government-agency market, anything from local police up to federal regulatory agencies, which accounted for about 20 percent of our commercial sales in the U.S. last year... It's the dedicated petroleum-support aircraft that haven't gotten back to where they should be."

Nor has Bell ignored foreign markets, having recently completed delivery of two dozen Cobra gunships to Pakistan with another batch currently being built for Jordan. Still, sales are soft. "I'd say anything over four or five helicopters is a pretty large sale. The ability of people to get financing, the strength of the dollar... money just isn't available," Mr. Reisch said. "Helicopters are pretty expensive, and it's the same old story: They're buying four or five when they might have been buying 10 or 20 under different circumstances."



MBB proudly presents state-of-the-art technology and products at the Paris Air Show — our contributions to aerospace and defense engineering progress, safety, and operational economy. The MBB twin-jet helicopter family reveals progress through excellence in rotor technology. One member of this family, the BK 117, earns world-wide renown in rescue missions under the

most difficult operational conditions. Our intimate involvement in the future of the Airbus — and the future of the TA 11, the European long-range aircraft of the 90's incorporating maximum comfort, performance, and economy — is legendary. An example is our weight- and fuel-saving

CFRP vertical tail unit. A glance into the near future is provided by reconnaissance drones and by the JF-90 fighter plane.

The competence of the European space industry is demonstrated by MBB's contributions to the Ariane V launcher; by the free-flying, retrievable space carrier Eureka; by the first reusable satellite SPAS-01, and by Columbus, the European contribution to the American space station project.

MBB's state-of-the-art 'High-Tech' for today — and tomorrow — is close enough to touch at the Paris Air Show, building 1 A.



Partner in international programs

Messerschmitt-Bölkow-Blohm GmbH B.P. 801109 8000 Munich 80  
Telephone 089/60 00-0 Telex 52370 mbb d Btx +48200

Aerospatiale's SA 365NA Dauphin 2.

## A SPECIAL REPORT ON AVIATION

## Eurocontrol Data Bank to Keep an Eye on the Sky

By Michael Metcalfe

PARIS — For air-traffic controllers, the sky has its limits. Airline operators, pilots and passengers all know the kind of problems associated with air-traffic congestion and restrictions: disruptions, delays, inconvenience and frustration.

As the age of mass air travel dawned in the early 1970s, best characterized as the "charter boom," so the problems became more acute and required speedy resolution. Over the past decades, several international organizations have sprung up to deal with these headaches, assess and engineer improvements in airspace organization, coordinate and define traffic flow. These include the International Air Transport Association and the International Civil Aviation Organization.

"In recent years, air-traffic movements over Europe have experienced serious delays and disorganization, particularly as a result of an imbalance between air-traffic demand and the traffic-handling capacity of different parts of the air-traffic control system," said Brian Martin, who heads the operation bureau of Eurocontrol's central data bank in Brussels. Eurocontrol is the nickname given to the European Organization for the Safety of Air Navigation.

Set up in 1960 as an intergovernmental organization, Eurocontrol

has seven member states: Belgium, France, West Germany, Ireland, Britain, the Netherlands and Luxembourg. Its 10 cooperating states include the United States, Canada and most of the Nordic and Southern European countries.

Eurocontrol was entrusted with a total of 200 aircraft operators, Mr. Martin said.

Evaluation of the system's operations trial is continuing throughout this year but, as Mr. Martin noted, "While it is too early to draw conclusions as to the operational value of the CDB [central data bank] output, there is every indication that it will achieve the objectives sought."

Civil aviation authorities in Europe are also stepping up their administrative efforts to avoid overloading of the air-traffic control system.

"It was at the initiative of France that ICAO convened the first informal flow-control meeting in its European office in Paris in 1970," said Christian Eigl, a technician officer at the organization.

The group was set up in 1944, as an agency of the United Nations, to promote safe and orderly development of the world's civil aviation sphere. It sets international standards and regulations and serves as a means of communication and cooperation in all aspects of civil aviation among its 155 member states.

Commenting on the first meeting, Mr. Eigl said: "This was the first time that ATC [air-traffic control]

personnel were able to assess, in an international forum, their day-to-day problems and to devise solutions for them that could restore orderly traffic flow, reduce economic penalties and improve public service."

Since that date, a series of informal meetings have taken place and they now embrace representatives covering the entire European region from France to the Soviet Union and from Scandinavia to the Mediterranean.

The organization views the forthcoming Seventh European Regional Air Navigation Meeting in Málaga, Spain, from Nov. 12 to 23, as an important stepping stone in efforts by its member states to develop air-navigation systems in an orderly manner.

On the Málaga agenda will be a review of efforts so far to solve European air-traffic congestion and disruption, an assessment of improvements in airspace organization and traffic flow in the region.

As the organization said: "With its airspace controlled by some 30 states, Europe has had particular problems in coordinating the air-

traffic flow, leading, in past years, to congestion and restrictions on traffic to maintain safety. It was, in fact, not exceptional for passengers to experience departure delays of six hours or more in London or Stockholm, for flights to Barcelona, Rome or Athens and vice versa."

Overall, the agency assesses from the evidence of data it has received that air-traffic flow in Europe has significantly improved over the past several years, although much remains to be done.

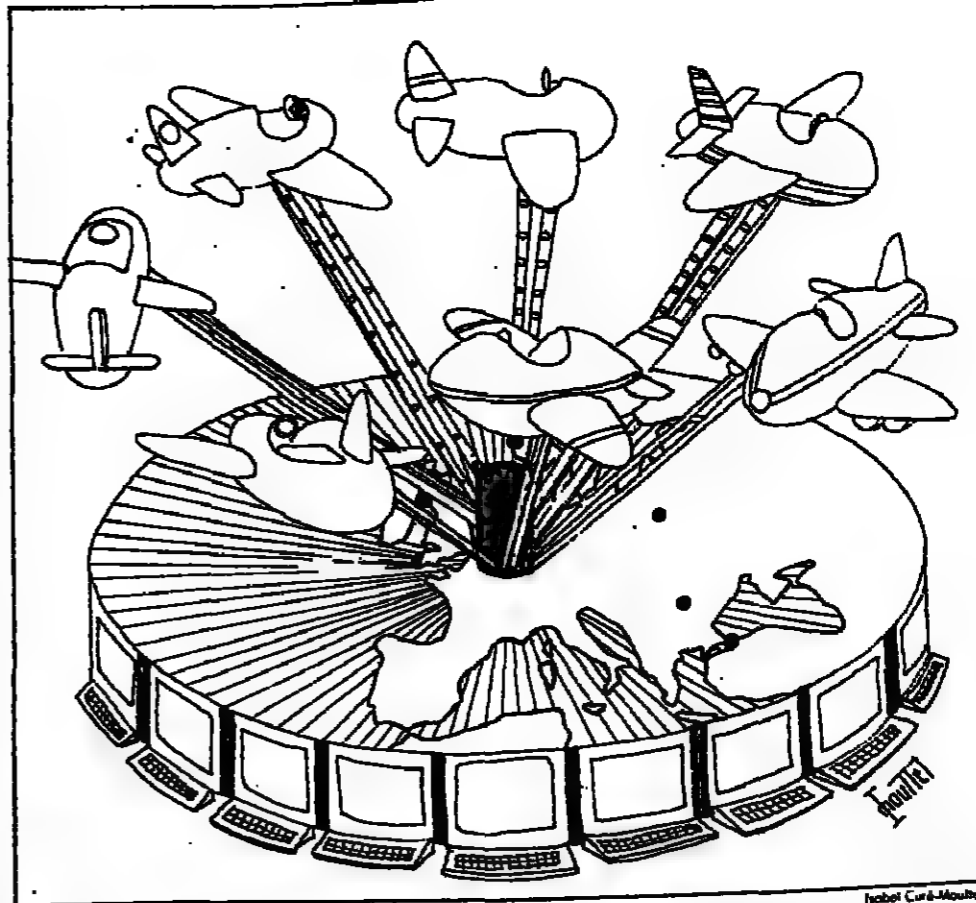
The Málaga meeting, as well as reviewing the current situation, will also allow civil aviation officials participating in the forum to discuss longer-term trends to ensure that advanced technologies are introduced progressively in Europe to the international aviation community's benefit.

Participants will also examine the step-by-step implementation of an integrated service dubbed Air Traffic Flow Management, aimed at eliminating, through early planning and coordination, the need for imposing restrictions on flow.

These activities fall into a time-frame of between several months and some 24 hours before the commencement of a flight," Mr. Eigl said. As part of the service's objectives, close cooperation with aircraft operators is maintained to ensure that operational flight planning continues efficiently. The

Brussels-based central data bank of Eurocontrol helps significantly with its steady stream of information. All these efforts, all of which

The area encompasses Western Europe, part of the East bloc and the southern Mediterranean.



Robert Curd-Moulton 1985

will figure high on the agenda of the Málaga meeting, are contributing to an improved air navigation system encompassing Europe and

leading to easier times for Europe's airline operators, pilots, air-traffic controllers and, ultimately, the passenger.

## CONTRIBUTORS

CHRISTY CAMPBELL, managing editor of James Publishing Company from 1978-82, now runs Campbell Rawkins in London, which publishes books on aerospace and on popular culture. He has written a number of books on defense and broadcasts on defense topics on the BBC Today program, Panorama, File on Four and Channel Four News.

ROBERT COCKBURN is a journalist based in London who specializes in the Middle East and aviation.

THERESA FOLEY, based in Washington, is managing editor of Space Commerce Bulletin, a newsletter about commercial space activities.

AXEL KRAUSE is the International Herald Tribune's staff economic correspondent.

GEORGE C. LARSON, who is based in North Carolina, is technical editor for Business & Commercial Aviation Magazine.

MICHAEL METCALFE is a Paris-based financial journalist.

LEW TOWNSEND is financial editor of Aviation Daily in Washington.

RICHARD S. TUTTLE is managing editor of Aerospace Daily and Aerospace ONLINE in Washington.

MICHAEL L. VIRTANEN, who is based in Washington, is associate editor of Travel Weekly.

STEPHAN WILKINSON is a New York-based magazine and film writer.

## Tensions Threatening Allied Ventures

(Continued From Page 10)

Dassault's largest single shareholder in terms of voting rights.

"The French government cannot and, in my view, will not, force Marcel Dassault to cooperate on this project if he doesn't want to... and he doesn't, except on his terms," said an executive with close ties to the company. Mr. Dassault, who is 93, founded the company and was designing and selling his aircraft before World War II. With his family, Mr. Dassault owns 50 percent of the company but more important, as a wealthy publisher, member of the National Assembly, with close ties to the Socialist government, Mr. Dassault is one of France's most influential business leaders. A 1983 biography written by Pierre Assouline, a French journalist, noted that since the end of the 1950s, Mr. Dassault has been "the real minister of French aviation."

Nevertheless, British and West German officials, speaking privately, said last week that the govern-

ments and companies in the Tornados project — plus Spain — might proceed if France pulled out. "It would be a shame, but not a tragedy, if that happened; and it may," a West German industry executive said on Friday.

Meanwhile, Dornier GmbH of West Germany and Northrop Corp. of the United States have continued joint study of a new tactical fighter for the 1990s for West German military requirements. According to Italian sources quoted at the Rome meeting, Bonn officials said that they would move toward "an American solution" if the European Fighter Aircraft project did not materialize soon.

West German industry sources on Friday said that that could involve McDonnell Douglas developing a fighter jointly with Messerschmitt-Bölkow-Blom, West Germany's largest aerospace company, which the two companies have already discussed. Or it could involve an outright purchase by the West German Air Force of a U.S.

fighter, such as the McDonnell Douglas-Northrop F-18, which could be fitted with European or U.S. engines.

"There are so many projects being talked about, and not enough money to do them all," a German executive based in Munich said. "And I think you will hear more talk before you see action."

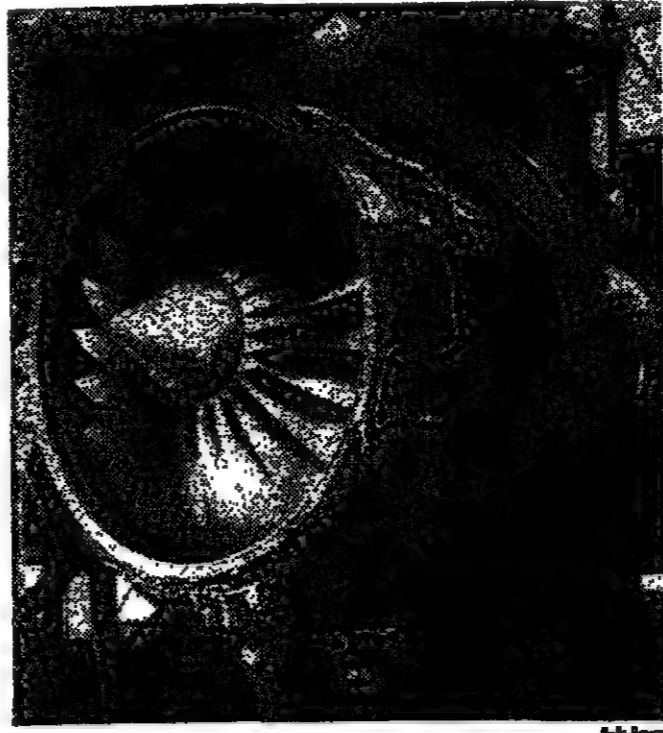
Meanwhile, trans-Atlantic ventures that were planned previously will dominate some of the news at the air show. For example, James Beegs, NASA's administrator, and Raimar List, the European Space Agency's director general, were scheduled to sign a memorandum of understanding on June 3. That will establish exchange of information and technical research covering the agency's participation in the U.S. manned space station, a \$12-billion project due for launching in 1994.

SNECMA, France's state-owned engine maker, and General Electric Co. of the United States, were planning to announce a joint develop-

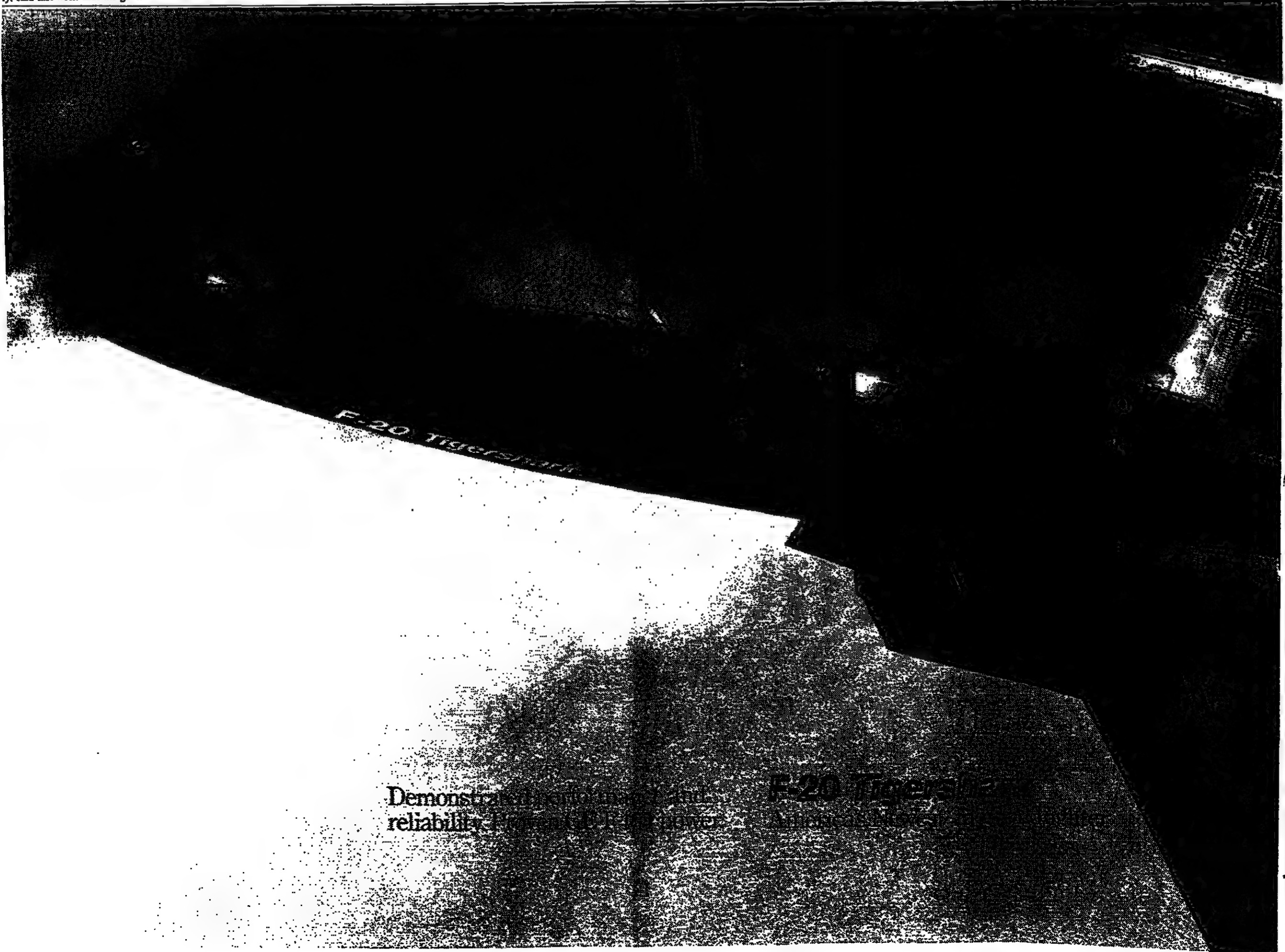
ment of GE's version of the propfan, which it calls UDF, for "unducted fan." GE and Boeing Co. of the United States have already tested the UDF for possible use in Boeing's new, 150-seater passenger plane that the company might build in the early 1990s.

Hamilton Standard, a division of United Technologies Corp., and Rolls-Royce Ltd. of Britain, also have propfan projects under way, claiming that the new engines could result in fuel savings of between 30 and 50 percent.

The Boeing aircraft project, details of which are expected to be outlined by the company at its news conference at the air show on Thursday, would compete directly with McDonnell Douglas' project being developed with Aeritalia, as well as with the Airbus A320, a similar-sized aircraft. But the A-320 is already being built and the first deliveries to Air France are scheduled for 1988. It, however, will be powered by turbofan engines.



The 535E4 Rolls-Royce engine for the Boeing 757.



Demonstration of the F-20 Tiger II's reliability, power and maneuverability.



NYSE Most Actives				
Vol.	High	Low	Last	Chg.
AT&T	23.54	23.50	23.50	-1/16
IBM	12.50	12.48	12.48	-1/16
General Electric	11.50	11.48	11.48	-1/16
Johnson & Johnson	10.50	10.48	10.48	-1/16
Merck	9.50	9.48	9.48	-1/16
Boeing	8.50	8.48	8.48	-1/16
Walmart	7.50	7.48	7.48	-1/16
McDonald's	6.50	6.48	6.48	-1/16
Target	5.50	5.48	5.48	-1/16
Walgreens	4.50	4.48	4.48	-1/16

Dow Jones Bond Averages				
Bonds	Open	High	Low	Close
10 Year	100.00	100.00	100.00	100.00
20 Year	100.00	100.00	100.00	100.00
30 Year	100.00	100.00	100.00	100.00
1 Year	100.00	100.00	100.00	100.00

Dow Jones Averages				
Open	High	Low	Last	Chg.
Indus	100.00	100.00	100.00	100.00
Trans	100.00	100.00	100.00	100.00
Chem	100.00	100.00	100.00	100.00
Comm	100.00	100.00	100.00	100.00
Finance	100.00	100.00	100.00	100.00

NYSE Diaries				
Advances	Declines	Unchanged	Total	Volume
100	100	100	300	1000000
100	100	100	300	1000000
100	100	100	300	1000000

NYSE Index				
High	Low	Close	Prev.	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

Odd-Lot Trading in N.Y.				
Buy	Sell	Net	Vol.	Value
100	100	0	100	1000000
100	100	0	100	1000000
100	100	0	100	1000000
100	100	0	100	1000000

Wednesday's NYSE Closing				
Vol.	High	Low	Last	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

Tables include the nationwide prices as of the closing on Wall Street and do not reflect late trading activity.				
Vol.	High	Low	Last	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

AMEX Diaries				
Advances	Declines	Unchanged	Total	Volume
100	100	100	300	1000000
100	100	100	300	1000000
100	100	100	300	1000000

Standard & Poor's Index				
High	Low	Close	Prev.	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

NASDAQ Index				
High	Low	Close	Prev.	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

AMEX Sales				
Advances	Declines	Unchanged	Total	Volume
100	100	100	300	1000000
100	100	100	300	1000000
100	100	100	300	1000000

AMEX Most Actives				
Vol.	High	Low	Last	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

AMEX Stock Index				
High	Low	Close	Prev.	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

## Trading Is Moderate on NYSE

NEW YORK — Prices on the New York Stock Exchange were lower late Wednesday in moderate trading.

The Dow Jones industrial average was down 1.90 to 1,299.62 shortly before 3 P.M.

Declines led advances by a 7-to-6 ratio among the 1,963 issues traded.

Five-hour volume amounted to about 75,070,000 shares, compared with 74,980,000 in the same period on Tuesday.

Although prices in tables on these pages are from the 4 P.M. close in New York, for time reasons, this article is based on the market at 3 P.M.

Analysts said the market was continuing a consolidation phase after recent advances. They said trading volume has been thinner when the market has been easing.

"Anytime there is selling pressure, volume declines," said Rick Harrington of Interstate Securities, Charlotte, North Carolina. Mr. Harrington said his outlook on the market remains positive.

"The bond market has been very strong," he said. "With rates on fixed-income securities coming down, investors should begin to shift money from those instruments into stocks," he said.

Analysts said while the tax plan discussed by President Ronald Reagan on Tuesday night might have underlined general uncertainty, it had little impact on trading. "The tax plan has already been discussed," Mr. Harrington said. Crandall Hayes of Robert Baird & Co., Mil-

waukee, agreed. "Reagan didn't say anything that everyone didn't already know," he said.

Another positive sign for the market is that while indexes are near their all-time highs, the market lacks enthusiasm, some analysts said. Indifference and apathy can be healthy for the market because it can mean there still are investors who could become more positive about the market and start buying.

"It's when everybody begins to speculate that you get into the terminal phase of the market," Mr. Harrington said. "When everyone is euphoric, it means everyone probably has already bought."

TWA was near the top of the actives list and higher. The carrier plans to seek a friendly merger to thwart New York investor Carl C. Icahn's attempt to take over the airline.

AT&T was lower. American Express was higher.

After advancing 6% to 83% Tuesday on Friday's announcement that it would buy as much as 35.8 percent of its outstanding common, Ligon was unchanged at midday.

IBM was lower. Texas Instruments was off sharply, breaking below a 12-month low of \$94 after First Boston analyst Jack Geraghty removed the stock from his firm's buy recommended list and cut his earnings estimate.

General Motors and Ford were gaining. Champion International Corp. was lower.

Oil stocks continued to come under pressure, depressed by wide expectations that Statoil, Norway's state oil company, will cut the price of its crude by 50 cents to \$1 a barrel. Mobil, Texaco, Atlantic Richfield, Phillips Petroleum, Unocal and Royal Dutch were all slightly weaker.

NYSE Most Actives				
Vol.	High	Low	Last	Chg.
AT&T	23.54	23.50	23.50	-1/16
IBM	12.50	12.48	12.48	-1/16
General Electric	11.50	11.48	11.48	-1/16
Johnson & Johnson	10.50	10.48	10.48	-1/16
Merck	9.50	9.48	9.48	-1/16
Boeing	8.50	8.48	8.48	-1/16
Walmart	7.50	7.48	7.48	-1/16
McDonald's	6.50	6.48	6.48	-1/16
Target	5.50	5.48	5.48	-1/16
Walgreens	4.50	4.48	4.48	-1/16

Dow Jones Bond Averages				
Bonds	Open	High	Low	Close
10 Year	100.00	100.00	100.00	100.00
20 Year	100.00	100.00	100.00	100.00
30 Year	100.00	100.00	100.00	100.00
1 Year	100.00	100.00	100.00	100.00

AMEX Diaries				
Advances	Declines	Unchanged	Total	Volume
100	100	100	300	1000000
100	100	100	300	1000000
100	100	100	300	1000000

Standard & Poor's Index				
High	Low	Close	Prev.	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

NASDAQ Index				
High	Low	Close	Prev.	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

AMEX Most Actives				
Vol.	High	Low	Last	Chg.
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00
100.00	100.00	100.00	100.00	0.00

(Continued on Page 18)

# National Westminster Bank PLC

## US \$50,000,000 9% Capital Bonds 1986

In accordance with condition 7 (i) and (ii) of the bonds, the redemption instalment of \$7,000,000 principal amount of bonds due July 1, 1985 has been met by purchases in the open market of \$1,046,000 and by a drawing by lot of \$5,954,000.

The serial numbers of bonds drawn by lot for redemption on July 1, 1985, are as follows:

11	1152	2250	2952	3397	4807	13165	13580	13932	14511	16079	16778	17173	17586	17951	18781	19834	20223	25497	31377	31744	33184	33568	33848	35403	35722	37059	39439	40900	41532	41933	42357	43015	43840	44227	44914	45619	46013	46741	48713
12	1155	2252	2953	3398	4808	13166	13581	13933	14512	16080	16779	17174	17587	17952	18782	19835	20224	25498	31378	31745	33185	33569	33849	35404	35723	37060	39440	40901	41533	41934	42358	43016	43841	44228	44915	45620	46014	46742	48714
13	1156	2253	2954	3400	4809	13167	13582	13935	14513	16081	16780	17175	17589	17953	18783	19836	20225	25499	31379	31746	33186	33570	33850	35405	35724	37061	39441	40902	41534	41935	42359	43017	43842	44229	44916	45621	46015	46743	48715
14	1159	2255	2955	3401	4810	13168	13583	13936	14514	16082	16781	17176	17590	17954	18784	19837	20226	25500	31380	31747	33187	33571	33851	35406	35725	37062	39442	40903	41535	41936	42360	43018	43843	44230	44917	45622	46016	46744	48716
15	1162	2257	2956	3402	4811	13169	13584	13937	14515	16083	16782	17177	17591	17955	18785	19838	20227	25501	31381	31748	33188	33572	33852	35407	35726	37063	39443	40904	41536	41937	42361	43019	43844	44231	44918	45623	46017	46745	48717
16	1165	2259	2957	3403	4812	13170	13585	13938	14516	16084	16783	17178	17592	17956	18786	19839	20228	25502	31382	31749	33189	33573	33853	35408	35727	37064	39444	40905	41537	41938	42362	43020	43845	44232	44919	45624	46018	46746	48718
17	1168	2261	2958	3404	4813	13171	13586	13939	14517	16085	16784	17179	17593	17957	18787	19840	20229	25503	31383	31750	33190	33574	33854	35409	35728	37065	39445	40906	41538	41939	42363	43021	43846	44233	44920	45625	46019	46747	48719
18	1171	2263	2959	3405	4814	13172	13587	13940	14518	16086	16785	17180	17594	17958	18788	19841	20230	25504	31384	31751	33191	33575	33855	35410	35729	37066	39446	40907	41539	41940	42364	43022	43847	44234	44921	45626	46020	46748	48720
19	1174	2265	2960	3406	4815	13173	13588	13941	14519	16087	16786	17181	17595	17959	18789	19842	20231	25505	31385	31752	33192	33576	33856	35411	35730	37067	39447	40908	41540	41941	42365	43023	43848	44235	44922	45627	46021	46749	48721
20	1177	2267	2961	3407	4816	13174	13589	13942	14520	16088	16787	17182	17596	17960	18790	19843	20232	25506	31386	31753	33193	33577	33857	35412	35731	37068	39448	40909	41541	41942	42366	43024	43849	44236	44923	45628	46022	46750	48722
21	1180	2269	2962	3408	4817	13175	13590	13943	14521	16089	16788	17183	17597	17961	18791	19844	20233	25507	31387	31754	33194	33578	33858	35413	35732	37069	39449	40910	41542	41943	42367	43025	43850	44237	44924	45629	46023	46751	48723
22	1183	2271	2963	3409	4818	13176	13591	13944	14522	16090	16789	17184	17598	17962	18792	19845	20234	25508	31388	31755	33195	33579	33859	35414	35733	37070	39450	40911	41543	41944	42368	43026	43851	44238	44925	45630	46024	46752	48724
23	1186	2273	2964	3410	4819	13177	13592	13945	14523	16091	16790	17185	17599	17963	18793	19846	20235	25509	31389	31756	33196	33580	33860	35415	35734	37071	39451	40912	41544	41945	42369	43027	43852	44239	44926	45631	46025	46753	48725
24	1189	2275	2965	3411	4820	13178	13593	13946	14524	16092	16791	17186	17600	17964	18794	19847	20236	25510	31390	31757	33197	33581	33861	35416	35735	37072	39452	40913	41545	41946	42370	43028	43853	44240	44927	45632	46026	46754	48726
25	1192	2277	2966	3412	4821	13179	13594	13947	14525	16093	16792	17187	17601	17965	18795	19848	20237	25511	31391	31758	33198	33582	33862	35417	35736	37073	39453	40914	41546	41947	42371	43029	43854	44241	44928	45633	46027	46755	48727
26	1195	2279	2967	3413	4822	13180	13595	13948	14526	16094	16793	17188	17602	17966	18796	19849	20238	25512	31392	31759	33199	33583	33863	35418	35737	37074	39454	40915	41547	41948	42372	43030	43855	44242	44929	45634	46028	46756	48728
27	1198	2281	2968	3414	4823	13181	13596	13949	14527	16095	16794	17189	17603	17967	18797	19850	20239	25513	31393	31760	33200	33584	33864	35419	35738	37075	39455	40916	41548	41949	42373	43031	43856	44243	44930	45635	46029	46757	48729
28	1201	2283	2969	3415	4824	13182	13597	13950	14528	16096	16795	17190	17604	17968	18798	19851	20240	25514	31394	31761	33201	33585	33865	35420	35739	37076	39456	40917	41549	41950	42374	43032	43857	44244	44931	45636	46030	46758	48730
29	1204	2285	2970	3416	4825	13183	13598	13951	14529	16097	16796	17191	17605	17969	18799	19852	20241	25515	31395	31762	33202	33586	33866	35421	35740	37077	39457	40918	41550	41951	42375	43033	43858	44245	44932	45637	46031	46759	48731
30	1207	2287	2971	3417	4826	13184	13599	13952	14530	16098	16797	17192	17606	17970	18800	19853	20242	25516	31396	31763	33203	33587	33867	35422	35741	37078	39458	40919	41551	41952	42376	43034	43859	44246	44933	45638	46032	46760	48732
31	1210	2289	2972	3418	4827	13185	13600	13953	14531	16099	16798	17193	17607	17971	18801	19854	20243	25517	31397	31764	33204	33588	33868	35423	35742	37079	39459	40920	41552	41953	42377	43035	43860	44247	44934	45639	46033	46761	48733
32	1213	2291	2973	3419	4828	13186	13601	13954	14532	16100	16799	17194	17608	17972	18802	19855	20244	25518	31398	31765	33205	33589	33869	35424	35743	37080	39460	40921	41553	41954	42378	43036	43861	44248	44935	45640	46034	46762	48734
33	1216	2293	2974	3420	4829	13187	13602	13955	14533	16101	16800	17195	17609	17973	18803	19856	20245	25519	31399	31766	33206	33590	33870	35425	35744	37081	39461	40922	41554	41955	42379	43037	43862	44249	44936	45641	46035	46763	48735
34	1219	2295	2975	3421	4830	13188	13603	13956	14534	16102	16801	17196	17610	17974	18804	19857	20246	25520	31400	31767	33207	33591	33871	35426	35745	37082	39462	40923	41555	41956	42380	43038	43863	44250	44937	45642	46036	46764	48736
35	1222	2297	2976	3422	4831	13189	13604	13957	14535	16103	16802	17197	17611	17975	18805	19858	20247	25521	31401	31768	33208	3																	



## Austria's Voest, Japan's Oki To Set up Joint Chip Venture

alent to 55 percent of Voest's investment, which will be channeled through a new leasing subsidiary of Voest that will build and equip the plant and lease it to the jointly owned company.

Voest's chairman, said the venture is part of his company's strategy of diversifying from steel and engineering. Last year, Voest won a 500 million Deutsche mark (\$160 million) order from IBM Deutschland GmbH, a subsidiary of International Business Machines Corp., to produce multilayer circuit boards.

Voest, through Austria Mikrosysteme International GmbH, already is producing semiconductors at Graz in a joint venture with American Microsystems Inc. of Santa Clara, California.

Yoshio Masuda, a senior managing director of Oki, said the agreement with Voest met his company's need to set up production facilities in Europe. He noted a contract was signed last July with France's state-owned Thomson-CSF to make metal oxide semiconductor gate arrays that can be used by both companies.

**Stockholm** — Scandinavian Airlines System reported Wednesday that profits had increased in the first half of the year but said there would be no improvement in yearly results because of strikes in Sweden and Denmark.

Profit before appropriations and taxes rose 11.5 percent to 174 million kroner (\$19.4 million) in the six months to the end of March, from 156 million kroner in the comparable 1983-84 period. Jan Carlzon, managing director, said yearly profits would be little changed from 968 million kroner.

All commercial flights to and from Sweden were grounded for 18 days by a civil servants' strike in May. SAS, owned by Norway, Denmark and Sweden, is seeking \$30 million in compensation from the Swedish government. Flights were also disrupted in March and April by a three-week strike in Denmark.

approach to layoffs is followed, according to the sources.

"In general, if the same approach is followed, we will approve," a government official said of the new layoffs Wednesday. He emphasized that laying off workers through early retirements, for example, does not add to unemployment, now 10 percent of the work force in France, and rising.

Prime Minister Laurent Fabius, in a recent interview with the International Herald Tribune, said that growing levels of unemployment in France "is the most difficult part of our restructuring program."

Renault, which lost 12.5 billion francs (\$1.33 billion) last year, is seeking to become competitive with other West European and U.S. car manufacturers. To reach that goal, the company estimates it must increase productivity by at least 40 percent.

At a meeting on Tuesday, the board also discussed ways to reinforce the group over the next few years, which would involve fresh capital from the government, low-interest loans from nationalized banks and what a company state-

Despite the increase in total shoe sales, retailers overestimated the strength of the economy. Consumers bought new shoes but not as many as anticipated. At the end of 1984, footwear makers had 216 percent more in finished inventory than they did in 1980, according to Kurt Salmon Associates.

Even the healthiest sectors of the shoe business failed to perform as expected. Athletic shoes became the strongest footwear category with a 10-percent sales gain. But many American shoemakers have abandoned the industry because shoe designs are so labor-intensive that they could no longer compete.

Nor even running shoes could keep up with their impressive performance of previous years. Once accounting for 25 percent of the athletic footwear market, running shoes dropped to 17 percent last year.

## German Cost of Living

like Gary Cooper in "High Noon." He sees the prospect of a 20-percent decline soon for Wall Street. Since last July he has been predicting that the market will top out at 1,350, give or take 30 points.

Among his indicators flashing caution is the bond market. He thinks it will peak in the next week or two, when he sees interest rates starting to rise again.

**Reuters**  
**WIESBADEN, West Germany** — The cost of living in West Germany has risen 0.2 percent in May to stand 2.7 percent higher than in May 1984, according to provisional figures released by the federal statistics office Wednesday.

In April the index, based on 1980, also rose 0.2 percent from March for an increase of 2.5 percent compared with April 1984. The statistics office said Wednesday that the final figures for May are due in about 10 days.

[illegible]

**Flick**, the West German industrial conglomerate, was ordered by Cologne court to pay back taxes totaling 290 million Deutsche marks (\$93.2 million) on a share of its proceeds from a stocks deal at the center of a political bribery scandal. The taxes relate to Daimler-Benz AG shares sold by Flick in the mid-1970s in order to invest in the U.S. chemicals conglomerate, W.R. Grace.

**Hongkong & Yamasaï Ferry Co.** is planning to build a first class waterfront hotel in Hong Kong's central district next to Exchange Square, a properties official said.

The company is negotiating with the government for a private treaty to use the site for a hotel.

**Matsumita Electric Industrial Co.** of Japan said it will produce car radios and stereos in West Germany jointly with its Japanese affiliate, Matsumita Communication Industrial Co., beginning in October.

1960s. The stock market was the only topic of conversation at cocktail parties. People quit their jobs to speculate full time. Being a broker was glamorous.

"I expect great euphoria at the next important bull market top. When taxi drivers, doormen and bellboys are giving hot stock tips, then it's time to head for the exits. We are nowhere near that."

However, Stanley Berge, technical market analyst at Tucker Anthony, is standing out there lonely

**BACHELORS' DOCTORATE  
MASTERS' DOCTORATE  
DEGREES** Non-Resident  
CALIF. DEPT. OF ED. AUTHORIZED  
SEND RESUME OR TELEX MAILING ADDRESS  
**KW**  
**KENNEDY-WESTERN UNIVERSITY**  
28318 Resnault Dr. • Dept. 22  
Apopka, Calif. 91301 USA • TELEX 567232

**The Royal Bank  
of Scotland  
Group plc**

<b>S. G. Warburg &amp; Co. Ltd.</b>	<b>Charterhouse Japhet plc</b>
<b>Bank of Tokyo International Limited</b>	<b>Banque Nationale de Paris</b>
<b>Baring Brothers &amp; Co., Limited</b>	<b>Crédit Commercial de France</b>
<b>Credit Suisse First Boston Limited</b>	<b>Kidder, Peabody International Limited</b>
<b>Merrill Lynch Capital Markets</b>	<b>Mitsubishi Finance International Limited</b>
<b>Samuel Montagu &amp; Co. Limited</b>	<b>Morgan Grenfell &amp; Co. Limited</b>
<b>Morgan Stanley International</b>	<b>Nomura International Limited</b>
<b>Orion Royal Bank Limited</b>	<b>The Royal Bank of Scotland plc</b>
<b>Sanwa International Limited</b>	<b>J. Henry Schroder Wagg &amp; Co. Limited</b>
<b>Williams &amp; Glyn's Bank plc</b>	<b>Yamaichi International (Europe) Limited</b>

- ♣ In 1984 National Westminster Bank made record profits and strengthened its position as a leading International Financial Services Group with International Banking Division enhancing its reputation as a significant provider of finance to major corporate customers worldwide.
- ♣ The significance of the Bank's involvement in the international financial markets is illustrated by the size of our foreign currency asset base in the London Eurocurrency Markets. Currency assets now exceed the equivalent of £25 billion, a figure indicative of our standing amongst the world's largest financial institutions.
- ♣ In April 1984 we made the first ever issue

<b>Financial Highlights 1984</b>		
	£m	B.Fm
Capital and Reserves	2,649	193,907
Pre-Tax Profit	671	49,117
Total Assets	71,517	5,235,044
Rates operative at 31st December 1984.		

Copies of the Report and Accounts which include the Chairman's Statement, may be obtained from: The Secretary's Office, National Westminster Bank PLC 41 Lothbury, London EC2P 2BP, ENGLAND  
Subsidiary Company:  
International Westminster Bank PLC  
Brussels Office: 2, Treurenberg  
Regional Office for France: 18 Place Vendôme, Paris  
Branches in Antwerp, Bordeaux, Lyons, Marseilles, Nantes and Nice

**National Westminster**  
The Action Bank

AUSTRALIA TELEX 24481 BAHAMAS TELEX NS 2177 BANRAIN TELEX 8550 BELGIUM TELEX 21208 BRAZIL TELEX 391-2130051 CANADA TELEX 06-22572  
 FRANCE TELEX 210393 GREECE TELEX 212786 HONG KONG TELEX HK 81572 IRELAND TELEX 25185 ITALY TELEX 320683 JAPAN TELEX 28282  
 MALAYSIA TELEX 33044 MEXICO TELEX 017 71 788 NETHERLANDS TELEX 50641 NEW ZEALAND TELEX NS 3903 SINGAPORE TELEX 28481  
 SPAIN TELEX 46534 SWEDEN & NORWAY TELEX 15050 SWITZERLAND TELEX 812186 UK TELEX 885361 USA TELEX 233563 USSR TELEX 412350  
 W. GERMANY TELEX 416500









## ART BUCHWALD

## A Military Sidecar Sore

WASHINGTON — The trouble in the Defense Department (and who says there is any trouble in the Defense Department?) is that as weapons become more sophisticated, they take longer and longer to produce. Therefore, the person in the Pentagon who originally came up with the idea is no longer there, and the project has gone through dozens of teams and different lives before it is ready for combat.



Buchwald

Take the SCM Mark 89. Back in the 1950s the U.S. Army wanted a scout car motor vehicle, which in effect was a motorcycle with a sidecar.

The idea for a new scout bike was thought up by Lieutenant Harold Doggett, who is now a retired general in Sarasota, Florida.

"Do you remember being the project officer on the SCM?" I asked him on the phone.

He thought hard. "Seems to me I had something to do with it. The scout bikes from World War II were obsolete and I went to the Harley-Davidson people and asked them to come up with a design. When I left we were hassling over the price. They were asking \$500 for each one and I was trying to knock them down to \$450."

"Then you left before it got off the drawing boards?"

"Yes, I did. I turned it over to a Major Art Hammond, and that's the last I heard of it. I believe he's out in Arizona at Sun City."

I tracked Hammond down.

"Sir," I said. "I understand that

you were involved with an SCM scout motorcycle that the Army was building."

"That wasn't a motorcycle. The only SCM I remember was an \$8,000 four-wheel-drive semi-personnel carrier. I stayed with it for three years, and then I was transferred to Hawaii."

"You don't remember who took charge of the project after you?"

"Colonel Jeffries or Joffrey. Not too sure of the guy's name, but he wound up heading the Lackadaisical Defense Company that was going after the contract."

Jeffries was also retired when I found him on his boat in the Chesapeake Bay. He recalled the SCM well. "We never did get into production with the SCM because the Army decided instead of a semi-personnel vehicle it wanted an all-weather tank. So we tore up the plans and started from scratch. Then I retired from the service and Brigadier General Tommy Wuggenheimer headed the project team. He was really hot on the SCM and had Congress convinced the Army couldn't do without it. Wuggenheimer insisted the SCM have radar on top of it and the capacity to float on water. We told them we could build it for \$500,000 each, and they were about to sign the order when Wuggenheimer was sent to Vietnam and replaced by Lieutenant General Swede Ruffles."

"Swede was the top helicopter pilot in the Army and he decided the SCM would have to fly. So he brought in a helicopter company as a co-contractor, and we worked for 10 years trying to get the thing off the ground. We were up to \$2.5 million when Swede was relieved by General Archie Toland, an engineer, who not only wanted the SCM to carry airborne personnel, do the work of a tank and have the ability of a helicopter but also perform as a bulldozer. We said it could be done for \$10 million each."

"In all the years you worked on the SCM did anyone ever mention that it originally was supposed to be a scout bike with a sidecar to transport a lieutenant and his aide?"

Jeffries said, "What would the Army want with a motorcycle that could only transport two people?"

## Laughing Cow and the Smile of Success

By Sandra Salmons

NEW YORK — Solemnity is not a quality normally associated with the advertising business, but for years Joy Golden felt that her comic talents were stifled by demands to be serious about lipstick and mascara. So last year, when TBWA Advertising asked the copywriter to "do comedy" for one of its accounts — *Vache qui rit* or Laughing Cow cheese from France — she leaped at the chance. "I saw the intrinsic goodness of someone going into a store and asking for a little round laughing cow in a red net bag," she said.

Thus was born a radio advertising campaign in which women — talking sometimes in a Bronx accent, a breathy, Marilyn Monroe voice or in the style of a San Fernando Valley girl — try to enlighten people who fail to realize that the cow is actually cheese.

"I'll get you a little round laughing cow in a red net bag," said, in one commercial, offers her hungry husband. "I don't care if she's in lace with high heels, it isn't what I had in mind," he complains.

The campaign, introduced a year ago in New York, sent Laughing Cow's sales soaring by 60 percent, according to Frank Schneider, president of the U.S. office of Fromageries Bel, the manufacturer. This year, the company has increased its radio campaign budget to \$1.3 million.

As for Golden, a 55-year-old New Yorker, the campaign's success "changed my whole life," she said. Disc jockeys talked about the commercials, listeners phoned in to find out who wrote them, and the advertising industry showered them with prizes.

Soon, Golden, who had been freelancing since 1980, was being contacted by requests from other advertisers. In February she formed her own company, Joy Radio, to write and produce comedy and jingle radio commercials. "They will all be funny," she said. "I don't want to do anything straight."

During her childhood, she learned comic timing by listening to the Jack Benny radio show and, a day after graduating from the University of Connecticut, she took a job in the stenographer



Joy Golden (center) recording a new commercial.

pool at Batten, Barton, Durstine & Osborn, the agency for Benny's sponsor, Lucky Strike. She moved quickly into copywriting but worked for a number of accounts to which humor was anathema. "The cosmetics industry is very serious; it's like NASA," she said.

By the time TBWA assigned her the Laughing Cow account, she was ready "to do a little shtick." She wrote a commercial in which a woman asks a supermarket clerk to suggest a snack.

"How about a laughing cow?" he says. "It won't fit on a cracker," she replies.

That commercial never ran, "but I knew, after that how to do it," Golden said. "There had to be a gag answer. There would always be someone innocent who said, 'It's too big, too fat, I can't bring it to school.' Once I had the format down, it was a snap."

When it came time to record the commercial, Lynn Lipton, an actress chosen to do the voice, suggested an ethnic style. "I said, 'Ethnic? How ethnic?' Golden said. With a Greek-American boss at TBWA and a German-born client, she felt uneasy.

"Heavy ethnic," Lipton insisted. And thus it is a "consummate" — some might say egregiously — New York voice that offers to bring a laughing cow to a hot-hot party ("If you're worried about sunburn, dump the red net bag and put the cow in a caftan," a friend suggests), to her daughter's Sweet 16 party ("All her friends were impressed except Heather Rubini who expected a real cow and brought a bale of alfalfa"), and to bed as a snack for her husband Stuart ("Then he ate all 10 minichewies and said it was the best treat he ever had in bed. So I snacked him.")

"When I'm hot, I knock them out," she said, adding that she has written as many as half-dozen commercials in a single day. "One line follows another. I sometimes feel the typewriter does it all. It's very easy for me. It's the easiest thing in the world."

When the work goes badly, however, no one gets more upset than Golden. She reads all her commercials to her older daughter, a theatrical producer with a face, "I always say, 'Is this funny or is this the worst?'" she said.

Her daughter's reaction to an early Sweet 16 draft was devastating. "She said, 'That's not funny, Ma,'" Golden said. Her own response, she said, was "Panic. I thought my career was over. I'm not funny anymore, all I'll be able to write again are obituaries: 'Ginsburg comma Helen, dearly beloved aunt.'"

Golden has signed eight clients for whom she is in various stages of writing and producing radio commercials. She expects to earn an average of about \$20,000 for each job, a sum that includes her basic creative fee, plus residuals paid each time a commercial airs. She said she hopes to earn up to \$300,000 this year, a 100-percent increase over the previous year.

As for Laughing Cow, the current campaign will end next month, with a new campaign scheduled to begin in September. Next year, Schneider said, more cities may be added to the schedule. How well New York humor will play beyond the coast, however, is unclear.

"I don't know what makes them laugh in Wisconsin," Golden admitted. "Is that the Midwest?"

## Thatcher: A Satirical Oil

An unflattering portrait of Prime Minister Margaret Thatcher of Britain, depicting her with buck teeth, squinting eyes and a haughty look, is one of 1,172 works in the summer show of the Royal Academy of Arts in London, which opens Saturday. The portrait, by the British painter Ruskin Spear, 74, shows Thatcher in the Malaysian capital with Prime Minister Mahatma bin Mohamad during her visit to the Far East earlier this year. The London Times commented that "less than a few minutes' study of the painting might chuckle at the prime minister might chuckle at the painting, in which her teeth figure more prominently than Satchi and Satchi might like."

Loneliness was the biggest concern of 18-year-old Tania Aebi as she began a solo voyage around the world in a sloop meant to serve as a form of higher education. After her family and friends bade her goodbye Tuesday, she tearfully pulled out of the South Street Seaport in New York in her 26-foot (8-meter) sloop, Varuna, which is Hindi for God of Water. The sloop was a present from Aebi's father, Ernst, 47, a graphic artist who lives in SoHo in lower Manhattan, who gave it to her in lieu of a college education. He said that the \$40,000 vessel, bought in England, was "cheaper than a college education nowadays," and that his daughter was ready for the trip.

A Los Angeles judge dismissed a lawsuit brought by Frank Sinatra claiming Copyright Records authorized the distribution of low-quality recordings of his work and used his name to promote them without his consent. A lawyer for Capitol Records, Howard King, said Sinatra's action was barred by the Statute of Limitations, under which such claims had to be made within four years of the alleged actions. Each of the purported actions occurred more than four years ago, King told Superior Court Judge Charles Jones. Jones agreed with

King and dismissed the suit, which was brought last month.

A. Bartlett Giamatti, the retiring Yale University president, will be honored with the richest endowed faculty chair in the university's history. Financed by \$1.7 million in gifts from 38 alumni, The Giamatti professorship will be assigned to the university's president to a leading scholar without restriction to a field of study, the school said. Giamatti, a Yale faculty member since 1966, became the university's 19th president in 1978, at age 40. He announced last month that he would retire in June 1986.

Allister Sparks, correspondent for The Washington Post in South Africa, has won the 1985 Louis M. Lyons Award for Conscience and Integrity in Journalism, the Newman Foundation of Harvard University announced. Sparks, a Washington Post reporter, the NBC reporter Marvin Kalb and the producer William Torgue have been named winners of the award. Lyons Award presented by the Edwin M. Hood Press Club for excellence in reporting on U.S. foreign policy and related issues. Sparks received the \$1,000 prize for his coverage of U.S. policy toward Lebanon in 1984. Kalb and Torgue's winning piece was an hour-long documentary "The Real Star Wars-Defense in Space."

Australia will compensate Pablo Picasso's granddaughter Marina for damage last September to one of Picasso's paintings, "Trois Femmes (Al Olympe)" at the Victoria National Gallery in Melbourne. Australia had insured the painting, part of an international exhibition, for \$304,591 U.S., a federal Arts Ministry spokesman said. A official slipper he tried to stop the painting fall to the ground when its book snapped, and accidentally thrust a screwdriver through it, the spokesman said. Negotiations are continuing over the extent of compensation. The Melbourne Age newspaper reported Tuesday that a 2,000-year-old sword from an exhibition of Chinese entombed warriors was accidentally broken in the gallery in 1982 and that China was paid \$195,000 U.S. in compensation.

## INTERNATIONAL CLASSIFIED

MOVING	ANNOUNCEMENTS	REAL ESTATE FOR SALE	REAL ESTATE TO RENT/SHARE	REAL ESTATE TO RENT/SHARE	REAL ESTATE TO RENT/SHARE	REAL ESTATE TO RENT/SHARE	REAL ESTATE TO RENT/SHARE	EMPLOYMENT	EMPLOYMENT
<b>INTERDEAN</b> WHO RISE FOR YOUR NEXT INTERNATIONAL MOVE FOR A FREE ESTIMATE CALL AMSTERDAM: (011) 89.93.24 ATHENS: (011) 96.12.12 BARCELONA: (011) 65.22.11 BERLIN: (011) 64.14.14 BRUSSELS: (011) 70.91.63 COPENHAGEN: (011) 33.12.14 FRANKFURT: (011) 90.20.21 GENEVA: (011) 43.35.30 LONDON: (011) 41.41.41 MADRID: (011) 67.24.50 MANCHESTER: (011) 70.20.16 MUNICH: (011) 51.51.51 PARIS: (011) 78.01.62 ROME: (011) 78.01.62 VIENNA: (011) 78.01.62 ZURICH: (011) 78.01.62	<b>ANNOUNCEMENTS</b> "Health Care Resources in Paris" A comprehensive directory of health care resources in Paris, including hospitals, clinics, and medical equipment. Available in French and English. Price: \$100.00. <b>REAL ESTATE FOR SALE</b> BELGIUM BRUSSELS, owner seeks spacious duplex apartment 400 sqm, facing park, 5 bedrooms, 5 bathrooms, 200 sqm garden, 100 sqm terrace, 100 sqm parking. Tel: 78.01.62. <b>FRENCH PROVINCES</b> COTE D'AZUR PROVENCE VILLA Hill, living, dining, 2 bedrooms, 2 bathrooms, 200 sqm garden, 100 sqm terrace, 100 sqm parking. Price: \$100,000. <b>L'UNIVERSITAI</b> 6 Avenue Clemenceau, 69000 Nica. (0493) 88 44 78	<b>REAL ESTATE FOR SALE</b> PARIS & SUBURBS PONT DE NEUILLY Tour de France 280 sqm, duplex, 4 bedrooms, 2 bathrooms, 100 sqm garden, 100 sqm terrace, 100 sqm parking. Tel: 78.01.62. <b>CHAMP DE MARS</b> 7th, very high class, 2 bedrooms, 2 bathrooms, 100 sqm garden, 100 sqm terrace, 100 sqm parking. Agence de l'Etoile. <b>NEUILLY CHEZY</b> In beautiful old building, 5th floor, 4 rooms, 165 sqm, 100 sqm garden. Tel: 563.97.69	<b>REAL ESTATE TO RENT/SHARE</b> FRENCH PROVINCES CANNES, Very nice apartment, very good condition, 110 sqm, 3 bedrooms, 2 bathrooms, 100 sqm garden, 100 sqm terrace, 100 sqm parking. Tel: 78.01.62. <b>COTE D'AZUR, PROVENCE</b> 20 min. beach, 2 bedrooms, 2 bathrooms, 100 sqm garden, 100 sqm terrace, 100 sqm parking. Tel: 78.01.62. <b>ST. TROPEZ</b> On the beach, 2 bedrooms, 2 bathrooms, 100 sqm garden, 100 sqm terrace, 100 sqm parking. Tel: 78.01.62.	<b>REAL ESTATE TO RENT/SHARE</b> HOLLAND DUTCH HOUSING CENTRE B.V. Amsterdam, 1015 CH Amsterdam, 020-657.24.19 or 0222.	<b>REAL ESTATE TO RENT/SHARE</b> PARIS AREA FURNISHED Embassy Service 8 Ave. de la Madeleine, 75008 Paris, France. Tel: 23.69.64. <b>YOUR REAL ESTATE AGENT IN PARIS</b> 562-1640 RAIS FOR RENT/SHARE RAIS FOR SALE OFFICES FOR RENT/SALE <b>EMBASSY SERVICE</b> 563 68 38 Selections of studios & 2 rooms Possible short term	<b>REAL ESTATE TO RENT/SHARE</b> PARIS AREA FURNISHED OUT YOUR HOME, buy a flat in Paris, 1015 CH Amsterdam, 020-657.24.19 or 0222.	<b>EMPLOYMENT</b> GENERAL POSITIONS AVAILABLE EXECUTIVE ASSISTANT Reporting to the president of a rapidly expanding Canadian 14-bed design & construction company, successful candidate will assist in the promotion of the company, work on projects in the field, and act as a liaison between the company and its clients. Tel: 78.01.62.	<b>EMPLOYMENT</b> DOMESTIC POSITIONS AVAILABLE AU PAIR WANTED IN USA for July 1985. Driven by a 2nd year, 22 years old, 1.70m, 60kg, blonde, with a good command of English. Tel: 78.01.62.	

## International Business Message Center

BUSINESS OPPORTUNITIES	BUSINESS SERVICES	OFFICE SERVICES
<b>ATTENTION EXECUTIVES</b> Publish your business message in the International Herald Tribune, the most widely read business publication in the world. Tel: 78.01.62.	<b>BEAUTIFUL PEOPLE</b> A complete social & business service providing a unique collection of selected, verified & motivated individuals for all occasions. Tel: 78.01.62.	<b>WORLD-WIDE BUSINESS CENTRES</b> Provided Executive Offices, Administrative, Corporate, Secretarial & Other Facilities. Tel: 78.01.62.

**SAINT LAURENT**  
rive gauche  
Women's shop  
19 et 21 avenue Victor - Hugo  
75116 Paris Tel. (1) 500.64.64